Exploring Nurses' Experiences of Older Adult Care: A Mixed Methods Study

Jenny Watts

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Supervisor: Dr. Noelle Robertson

Second Supervisor: Prof. Richard Baker

School of Psychology

Abstract

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We have a global nursing shortage and inadequate provisions to care for our ageing population. To ensure sustainability it is vital to understand predictors of nurse wellbeing. This project began with a systematic literature review determining key concepts for understanding nurses' experiences, revealing growing evidence for secondary trauma in nurses. This is a specific form of distress resulting from witnessing pain or vulnerability in a third party. However, current understanding is limited; and nurses providing older adult care have received little research scrutiny. Mixed methodology was employed, exploring nurses' experiences using qualitative interviews, and measuring prevalence and severity of distress by quantative survey.

Interview transcripts from three senior nurses were analysed systematically according to principles of Interpretative Phenomenological Analysis (IPA). In summary, emotional engagement with patients was not only intrinsically rewarding, but often yielded useful information which could improve patient outcomes. However this patient-centred approach may also be associated with burnout, as nurses reported feeling exhausted, especially when interactions were emotionally intense or lacked reciprocity.

A quantitative survey investigated the impact further. Nurses across three NHS Trusts completed standardised measures of general health (assessed as anxiety and depression), distress from intense emotional engagement (burnout and secondary trauma) and intrinsic reward (compassion satisfaction). Multiple regression models suggested that compassion satisfaction and perceptions of the organisation as innovative predicted burnout. Therefore in this time of NHS restructure, policy makers need to be aware that staff can benefit from belonging to an organisation perceived as dyanmic and entreprenurial.

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Journals

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Peer reviewed proceedings

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Watts, J., Robertson, N. and Baker R. "Burnout and secondary trauma: a review of the emotional costs of nursing". *European Academy of Occupational Health Psychology.* Pontifical Urbania University, Rome, Italy. 29th – 31st March 2010.

Poster presentations

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Watts, J., Robertson, N. and Baker R. "A qualitative exploration of how nurses experience care of older adults with cognitive impairment". *British Psychological Society Division of Clinical Psychology, Annual Conference.* Birmingham, UK. 30th November – 2nd December 2011.

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Watts, J., Robertson, N., and Baker R."Exploring nurses' experiences of older adult care: a qualitative pilot study". *European Academy of Occupational Health Psychology.* Pontifical Urbania University. Rome, Italy. 29th – 31st March 2010.

Watts, J., Robertson, N. and Baker R. "The emotional cost of nursing". *Midlands Health Psychology Network, Annual Conference.* Coventry University. Coventry, UK. 11th February 2010.

Watts, J., Robertson, N. and Baker R. "From burnout to secondary trauma: A review of the costs to nurses". *British Psychological Society Division of Clinical Psychology Annual Conference.* London, UK. 12th December 2008.

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Chapter 1

Introduction

1.1 Project summary

This project aimed to examine the implications of patient contact for nurses' psychological wellbeing. It has been suggested that empathising with those who are vulnerable and may be physically or psychologically distressed can lead to carers becoming psychologically distressed themselves (Figley, 1995a). However, there is limited empirical support for this pathway and understanding of risk factors is poor (Sabin-Farrell and Turpin, 2003; Elswood et al., 2011). There is however evidence that specific forms of nurse occupational stress, described as burnout and secondary trauma, can have far-reaching and adverse consequences. Potential costs include staff turnover and absence (Parker and Kulik, 1995; Vahey et al., 2004) patient care (Burtson and Stichler, 2010) and occupational health (Leiter, 2005). Therefore, in order to safeguard the wellbeing of both patients and workforce, further understanding is required in order to predict vulnerability and emphasise sources of resilience. Applications of this knowledge include nurse training, Continuing Professional Development (CPD) and occupational policy.

1.1.1 Research aims

This is an explorative project, therefore it does not primarily address specific hypotheses, however, this thesis had the following aims:

1. Explore sources of distress and rewards for nurses working with older adults

2. Determine suitable tools for quantifying these sources of distress and reward

3. Explore potential risk factors and sources of resilience in order to inform further study and occupational policy

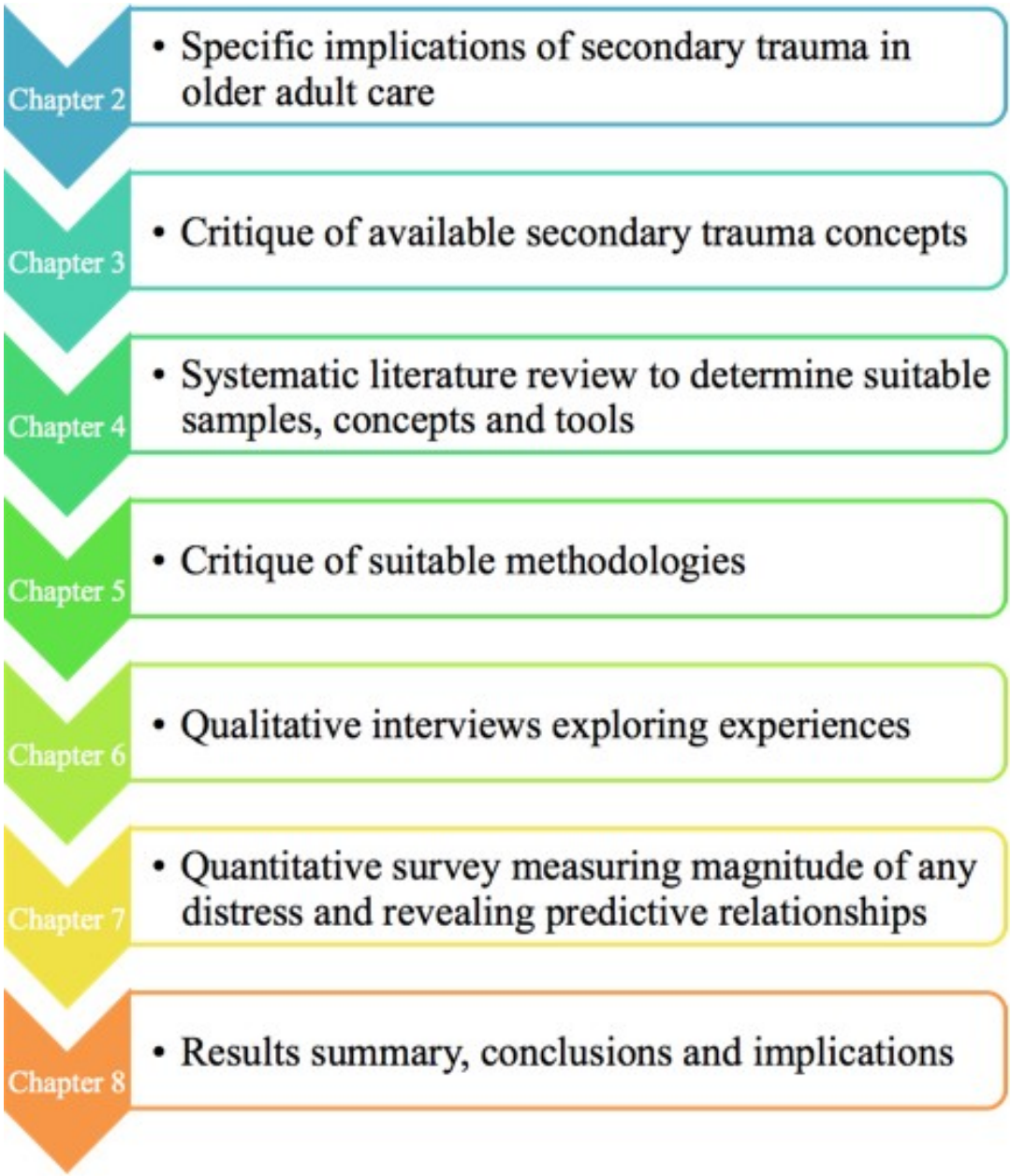
The following sections describe the specific contribution of each chapter as summarised in figure 1.1.

1.2 Chapter 2 Implications of secondary trauma for older adult nursing

1.2.1 Aims

The systematic literature review revealed which areas of nursing had received research scrutiny (Chapter 4). Surprisingly despite an increasing ageing demographic and consequent increased caseload, with evidence that observing patients' suffering adversely affects nurses' wellbeing, nurses providing older adult care have received little research attention (Kuremyr et al., 1994; Mealer et al., 2012). This chapter describes why this sample is worthy of study.

Figure 1.1: Flow chart summary of the thesis



1.2.2 Results

This chapter provided a rationale for selecting older adult nurses by considering several factors: how care for those with disease, social and psychological vulnerability which disproportionately present in older adults potentially influence staff wellbeing; significant adverse and sentinel events which highlight cases of older patient neglect; the growing economic burden of providing older adult care.

1.2.3 Conclusions

Currently no empirical studies have explored secondary trauma in nurses providing older adult care. Research from the related concept of burnout provides evidence that nurses working with older adults are vulnerable to distress. The following chapters explain how the experiences of this occupational group were explored further.

1.3 Chapter 3 Available concepts

1.3.1 Aims

The first stage of this project, the literature review (see Chapter 4), revealed that many concepts and tools were available for exploring secondary trauma in nurses. Therefore it was important to critique the available options. This chapter provided a summary of the major concepts used to describe and measure secondary trauma in nurses in order to select appropriate tools for further investigation.

1.3.2 Results

Information was retrieved from existing systematic literature reviews of secondary trauma in nurses, reviews relating to other occupational groups and the systematic search conducted for Chapter 4 (Literature review).

1.3.3 Conclusions

The related concept of burnout has been studied extensively and, at present, offers are more robust measurement tool, the Maslach Burnout Inventory (Maslach et al., 1996).

1.4 Chapter 4 Literature review

1.4.1 Scoping literature review

1.4.1.1 Aims

This project began with a broad review of published literature documenting secondary trauma in nurses. This review had four aims: to determine if evidence existed for secondary trauma, to reveal which populations of nurses had been studied, to reveal any risk factors, explanations or sources of resilience, and to determine any consequences to workforce or patients.

1.4.1.2 Results

This general search revealed preliminary evidence for secondary trauma responses in many samples of nurses. However many different concepts and tools had been employed, therefore it was unclear if secondary trauma is a universal phenomenon, or if each tool measures a related, but distinct, aspect of nurse distress. Additionally due to the limited evidence it is not clear if this distress

creates a significant detrimental impact on nurses. Accordingly the available concepts and tools were critiqued to determine the most suitable for further study.

1.4.1.3 Conclusions

Due to the many and overlapping terms a more focused review of the literature was required.

1.4.2 Refined systematic literature review

1.4.2.1 Aims

The review aimed to clarify current understanding specifically secondary trauma prevalence, predictors and evaluated interventions. This information guided the choice of measures for further study and suggested a suitable sample for investigation. Due to the poor conceptualization in this developing area, more stringent search criteria were employed to reveal studies employing only validated measures specifically assessing secondary trauma.

1.4.2.2 Results

Secondary trauma prevalence ranged between 0 and 50%, suggesting that this is not an inevitable response in nurses. The literature review thus provided a rationale for investigation to determine explanations, predictors or risk factors. Potential predictors, such as years of professional experience were revealed to guide the choice of demographic items in the quantitative survey. Although tested interventions exist for other occupational groups, specific secondary trauma prevention or management strategies designed for nurses have not been subject to rigorous evaluation, suggesting scope for further study. Secondary trauma had been operationalised as PTSD, Secondary Traumatic

Stress and Compassion Fatigue, however differences between samples might be an artefact of variations in tool sensitivity (see Chapter 3).

1.4.2.3 Conclusions

The systematic review determined that secondary trauma has been studied in a variety of settings, however, older adult contexts had not received specific attention (Chapter 2 details some of the implications of nursing older adults and rationale for studying this sample).The review revealed diverse tools and concepts, however their quality varied and secondary trauma research has been limited by poor methodology (Sabin-Farrell and Turpin, 2003). Therefore, it was important to include comparisons with more established and robust measures of wellbeing. (Chapter 7 provides an account of the design and results of the survey).

1.5 Chapter 5 Choosing a methodology

1.5.1 Aims

This chapter described the decisions governing the choice of design, epistemology and data collection.

1.5.2 Results

This chapter reviewed the distinctions between qualitative and quantitative paradigms and described how the chosen epistemological position of critical realism was able to provide a balance between positivist and interpretative assumptions. Available quantitative and qualitative data collection methods were reviewed to find a feasible strategy for collecting data from busy healthcare professionals.

1.5.3 Conclusions

This chapter determined that meeting the project's aims required both qualitative and quantitative data. Mixed methodology was thus chosen, beginning with explorative qualitative interviews which were analysed by Interpretative Phenomenological Analysis (IPA) to inform the choice of quantitative tools for an online survey.

1.6 Chapter 6 Qualitative interviews

1.6.1 Aims

This chapter described how interviews were employed to give credibility to concepts from the literature.

1.6.2 Results

Nurses reported that making efforts to engage with patients was not only satisfying, but it often yielded useful information which could improve outcomes. However, this patient-centred approach may also be associated with burnout, as nurses reported feeling exhausted, especially when interactions were emotionally charged or lacked reciprocity.

1.6.3 Conclusions

The interviews suggested the following concepts for further investigation: distress, reward, empathy, emotional labour, secondary trauma and burnout. The interviews also suggested that perceived support and workplace norms could impact on health behaviours such as seeking support and working beyond shift

boundaries. The following chapter describes how appropriate tools were selected to measure these concepts.

1.7 Chapter 7 Quantitative survey

1.7.1 Aims

The interviews provided preliminary evidence that nurses were experiencing distress, in addition to a sense of intrinsic satisfaction, as a result of their work with older adults. Accordingly, the survey aimed to quantify these responses, determine severity of any distress, enable comparisons with nurse working in other contexts and explore predictive relationships between variables. This chapter describes how nursing staff across three NHS Trusts completed standardised measures of general health (anxiety and depression), aspects of occupational stress (burnout) and secondary trauma (compassion fatigue), and fulfilment (compassion satisfaction).

1.7.2 Results

Burnout scores were high, with over 90% of the nurses experiencing depersonalisation and a reduced sense of personal accomplishment. These findings were concerning because not only were they higher than other groups of nurses, but burnout has been associated with staff turnover, ill health and reduced empathy (Yoder, 2001; Vahey et al., 2004; Leiter, 2005). However compassion satisfaction scores were similar to nurses working in intensive care, emergency and oncology settings.

1.7.3 Conclusions

The survey was able to address questions about the role of empathy and other variables suggested by the literature. Results enabled comparisons with other samples of nurses, verifying that staff providing older adult care showed evidence of significant distress in the form of anxiety and burnout. The survey results suggest that burnout was a greater problem than secondary trauma (operationalised as compassion fatigue). The implications of these results are explored in the following and final chapter.

1.8 Chapter 8 Conclusions

1.8.1 Aims

This chapter demonstrates how the project's aims have been met and suggests practical applications of the results.

1.8.2 Results

Predictive variables suggested by the systematic literature review and interviews with senior staff were tested. Burnout could be explained by perceptions of the organisation as more innovative and supportive. Anxiety scores were high, with the majority of staff exceeding threshold scores, suggesting that general health among survey respondents warrants attention.

Nurses working with older adults demonstrated comparable compassion fatigue and compassion satisfaction scores with nurses working within other settings including oncology and intensive care. However, burnout scores were higher than normative values for this occupational group. From these findings it is not possible to claim that providing older adult care results in higher burnout

than working with other patient cohorts. The limitations of these findings are discussed and the implications explored.

1.8.3 Conclusions

This explorative project established qualitative and quantitative evidence that nurses providing older adult care are vulnerable to a specific form of occupational stress associated with their role as carers.

Differences in vulnerability suggest that certain groups, such as younger nurses may benefit from additional support. A positive predictive relationship was detected between compassion satisfaction and the depersonalisation aspect of burnout. It should be noted that this does not indicate that satisfaction is causing burnout, or vice versa, it is possible that nurses who experience greater reward may also be more susceptible to burnout. Therefore burnout awareness should be incorporated into routine supervision or continuing professional development. This chapter outlines a plan for implementing these ideas.

Theoretical explanations for secondary trauma responses argue that empathic engagement with people expressing some physical or psychological torment is vital. The interviews provided preliminary support for this pathway, however a validated multi-dimensional empathy measure demonstrated that cognitive and emotional empathy was not significantly associated with any form of nurse distress. This chapter provides explanations for these findings and suggests further research applications.

Perceptions of the organisation appeared important for staff wellbeing, with perceived support and an innovative culture associated with burnout. Currently the NHS is undergoing a period of re-structure which staff may find disruptive, yet these results suggest nurses can benefit from belonging to a creative, enterprising organisation. This section explains the importance that policy makers

emphasise how proposed changes are both vital and innovative.

Chapter 2

Implications of secondary trauma for older adult nursing

2.1 Introduction

Researchers have called for further investigation of how healthcare staff respond to patient distress, decline or death (Taubman-Ben-Ari and Weintroub, 2008). However, healthcare professionals comprise many different occupational groups with slightly differing roles involved in patient care. Nursing can require greater patient contact than medicine, and this role demands awareness of patients' physical, psychological and physiological needs (Taubman-Ben-Ari and Weintroub, 2008). This chapter therefore provides the rationale for selecting nurses caring for adults aged over 65 years, as the sample for this explorative study.

2.1.1 Under-researched contexts

Following interviews and analysis of Impact of Events Scale scores – IES – (Horrowitz et al., 1979) the authors argued that it is difficult to predict which events

will lead to trauma symptoms (Regehr et al., 2002). Given that "*It is frequently a smaller and less sensational event that triggers an emotional response. Such events as the lonely death of an elderly person or the suicide of a desperate individual, do not make the news or capture public attention*" (Regehr et al. (2002), p505).Yet if responses to trauma are solely seen as the purview of extraordinary events, resources may be allocated towards large-scale catastrophes, with routine contact considered less problematic. Arguably researchers and policy makers should be mindful not to assume that certain incidents and certain envionments will be more distressing for staff than others. As one participant of Regehr and colleagues' (2002), p510, study commented:

"*We always get a call asking if we are OK on the big ones, the ones that don't bother me . . . the stresses that paramedics feel are very individualized.*" Therefore it is vital to explore the impact of daily, cumulative exposure to others' pain and suffering (Jonsson and Segesten, 2004).

Despite evidence that observing patients' suffering adversely affects staff well-being, certain contexts do remain under-researched (Mealer et al., 2012). There is a concern that much of the data has emerged from unusual and catastrophic events, with more routine healtcare contexts receiving limited research coverage (Hooper et al., 2010). One staff cohort very much under-researched are nurses working with older adults. This seems surprising given the challenges to industrialized nations of a growing ageing demographic and impacts on staffing resources in healthcare (Brookmeyer et al., 2007; Office of National Statistics, 2008). Moreover, many health-services are understaffed and the retention of qualified nurses is a global concern (Littlejohn et al., 2012).

2.1.2 Implications for staff retention

A cross-sectional study of over ten thousand nurses in acute hospitals across the USA, Canada, England and Scotland revealed that perceptions of organizational support were directly linked to burnout and job satisfaction (Aiken et al., 2002). Burnout describes a state of exhaustion resulting from intense inter-personal engagement (see Chapters 3 and 7). The authors concluded that adequate staffing and support were vital for improving quality of care and improving nurse retention (Aiken et al., 2002).Overall, to provide adequate care and retain sufficient numbers of staff, it is vital that we can understand factors linked to nurse wellbeing. More specifically evidence is required to establish how the daily and routine exposure to suffering and contact with patients impacts upon nurses working in understudied contexts, such as older adults care.

2.2 Status of older adult care

There is concern that older adult care is not an appealing specialty; surveys of student nurses suggest it has a reputation as unchallenging, dull and frustrating (Lovell, 2006). Furthermore, the status of older adult care as a career is not enhanced by the high staff turnover and low entry requirements (Nordenfelt, 2009). It has been argued that this sector is valued less than other areas of nursing and staff competency especially, within residential care settings, is not sufficient to meet the demands of the role (Hasson and Arnetz, 2007). In the UK concern has been voiced that private healthcare companies are not as strictly regulated as the NHS and therefore training and staffing levels may be lower, with implications for the quality of care available (Kerrison and Pollock, 2001). In addition, NHS provision for older adults has faced criticism from professional and regulatory organisations (Parliamentary and Health Service Ombudsman,

2011; Royal College of Nurses, 2012). Therefore, older adult care has been subject to negative scrutiny and may not seem appealing to trainee nurses, potentially impacting on staffing levels and consequently quality of care.

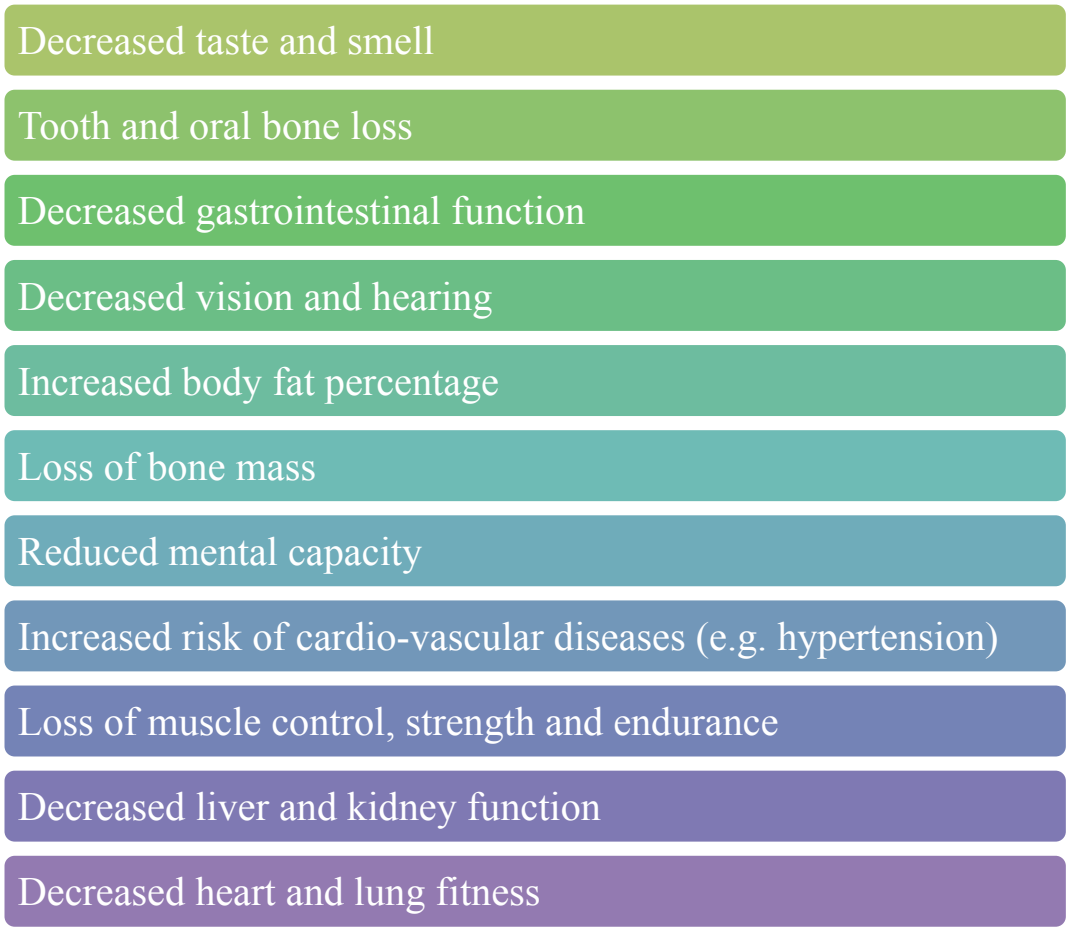
2.3 Impact of patient conditions

Ageing is a normal biological process which medical professionals claim should not be pathologized; with normal ageing only becoming problematic when in combination with other physical, mental or social factors, such as social marginalisation (Shukla, 1999). The following figure summarises some of the changes occurring as a result of ageing.

However, as a result of these processes, incidence of certain diseases increases with age (Lovell, 2006) and therefore adults aged over 65 years are the biggest consumers of hospital and social care resources (Department of Health, 2001). In addition, neurodegenerative illnesses, such as Alzheimer's Disease and other dementias, are increasingly prevalent and Johns Hopkins University predicted that by the year 2050 1 in 85 adults will be living with Alzheimer's Disease (Brookmeyer et al., 2007). As a result of exposure to challenging behaviour associated with cognitive decline, nurses can face multiple sources of patient-interaction-related stress (Mackenzie and Peragine, 2003). For example, burnout may result from providing support to distressed relatives of patients with dementia, and in addition staff are required to address complex physical care and manage challenging behaviour (Mackenzie and Peragine, 2003). Moreover communicating with individuals who may be confused, disruptive or depressed, in which interactions are not reciprocated, potentially leads to frustration and lack of intrinsic reward (Kuremyr et al., 1994).

Chapter 4 provides an overview of the literature, and reveals that distress op-

Figure 2.1: Biological changes associated with ageing, from (Lovell, 2006)



erationalised as secondary trauma is little studied within non-emergency settings, such as older adult care. Functional decline is a common complication of hospital admission of older adults and consequently staff can be increasingly exposed to vulnerability and decline, rather than improvement (Boltz et al., 2010). White et al. (2004) revealed that unrelieved suffering has adverse impact on nurses, with participants reporting feelings of helplessness, vulnerability, frustration, being overwhelmed and a sense of failure. In addition to psychological distress they also reported physical problems such as headaches, poor sleep, back pains and digestions problems White et al. (2004).

Moreover, within high mortality settings, such as nursing homes, nurses can become adversely affected following patient deaths (Anderson and Gaugler, 2006). The researchers noted that some employees reported preoccupying thoughts about deceased patients, avoidant behaviour and anxiety (Anderson and Gaugler, 2006). This would suggest significant distress with symptoms associated with Posttraumatic Stress Disorder (PTSD). However, further investigation would be required before reaching this conclusion. For more information on this and related concepts see Chapter 3.

There is tentative evidence for empathy and burnout affecting nurses caring for patients with dementia which requires further exploration. Åström et al. (1990) determined an overall positive attitude towards patients with dementia, however empathy was negatively associated with burnout. Further investigation into the impact of empathy upon nurse wellbeing is warranted, especially within the care of older adults (Jenkins and Allen, 1998; Goodrich and Cornwell, 2008). This particular group are perceived to be especially vulnerable to abuse and neglect if staff experience the depersonalization aspect of burnout (Goodrich and Cornwell, 2008).

2.4 Conclusions

Secondary trauma research may not have considered older adult nurses, yet existing evidence suggests that this cohort can experience significant distress as a result of patient interaction. Nurse distress is associated with job turnover and with staff shortages and care quality prevailing concerns, it is essential that measures are taken to improve nurse wellbeing. The following chapter details how nurses' experiences were explored and conceptualised in order to inform workplace policy.

Chapter 3

Available Concepts

3.1 Introduction

Secondary trauma is a relatively new area of investigation (Figley, 1995a) and relative to other vulnerable populations, there is limited research focusing upon nurses (Sabo, 2006). The literature is complicated by numerous over-lapping terms (as revealed in Chapter 4). Therefore this chapter provides a summary of the major concepts in order to select appropriate tools for further investigation. For the sake of clarity *secondary trauma* has been employed as an umbrella term for problematic trauma symptoms resulting from exposure to or awareness of significant distress in others.

Investigation is required in order to determine more specific risk factors and effective investigation requires concepts that can be described and measured. Secondary trauma has been described as *emotional contagion, vicarious trauma, secondary traumatic stress, PTSD, indirect trauma, burnout, compassion fatigue*, to name but a few. In summary the literature revealed many over-lapping terms, little empirical support and few standardised measures (Jenkins and Baird, 2002; Sabin-Farrell and Turpin, 2003; Aycock and Boyle, 2009). The

utility of some of these terms is uncertain as they lack a clear definition and currently cannot be assessed by valid psychometric tools. Therefore this chapter will only describe secondary trauma concepts currently associated with standardised measures.

3.2 Concepts

Relevant concepts within the literature were revealed by a systematic literature review (Chapter 4) and other systematic reviews critiquing secondary trauma concepts applied to other healthcare professionals (Sabin-Farrell and Turpin, 2003; Elswood et al., 2011).

3.2.1 PTSD

PTSD has been explained as failure to adapt and return to normal functioning once a threat has passed (Friedman et al., 2010). Although it is normal to experience temporary symptoms, such as nightmares, following exposure to acute trauma, PTSD is characterised by persistent impairment and enduring distressing symptoms (Friedman et al., 2010). The American Psychiatric Association (American Psychiatric Association, 2000) diagnostic criteria provide a definition of a traumatic event (Criterion A), the resulting symptoms (B, C, D), duration (E), and impact (F). Figure 3.1 details the diagnostic criteria for PTSD from the latest version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, APA, 2000). There are plans to eliminate A2 in the next edition, the DSM-V, however A1, the so-called "Stressor Criterion", will remain (Friedman et al., 2010). A1 states that PTSD is not limited to individuals injured or threatened, and therefore, witnesses and other persons learning of these incidents can also develop symptoms. Accordingly, PTSD has

Figure 3.1: Diagnostic criteria for PTSD from the DSM-IV-TR (American Psychiatric Association, 2000)

A1	• The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others
A2	• The person's response involved intense fear, helplessness or horror
B	• **Re-experiencing Symptoms (Requires one or more of):**
B1	• Intrusive recollections
B2	• Distressing nightmares
B3	• Acting/feeling as though event were recurring (flashbacks)
B4	• Psychological distress when exposed to traumatic reminders
B5	• Physiological reactivity when exposed to traumatic reminders
C	• **Avoidant/Numbing Symptoms (Requires three or more of):**
C1	• Avoidance of thoughts, feelings or conversations associated with the stressor
C2	• Avoidance of activities, places or people associated with the stressor
C3	• Inability to recall important aspects of traumatic event
C4	• Diminished interest in significant activities
C5	• Detachment from others
C6	• Restricted range of affect
C7	• Sense of foreshortened future
D	• **Hyperarousal Symptoms (Requires two or more of):**
D1	• Sleep problems
D2	• Irritability
D3	• Concentration problems
D4	• Hypervigilance
D5	• Exaggerated startle response
E **Duration of the disturbance is at least 1 month**	• **Acute**—when the duration of symptoms is less than 3 months • **Chronic**—when symptoms last 3 months or longer • **With Delayed Onset**—at least 6 months have elapsed between the traumatic event and onset of symptoms
F	• **Requires significant distress or functional impairment**

been used to as a framework to explain trauma symptoms in healthcare staff (Mealer et al., 2007).

However, it should be noted that staff can experience detrimental symptoms without meeting the full diagnostic criteria (de Boer et al., 2011). Moreover, some researchers have argued that PTSD measures may be less suitable for healthcare professionals and significant distress may remain undetected if PTSD diagnostic criteria are applied (Lerias and Byrne, 2003).

PTSD measures enable data to be collected from samples exposed to direct and secondary trauma. For example, the meta-analysis conducted by de Boer et al. (2011) determined that treating patients within the SARS epidemic was positively associated with PTSD in samples of nurses. However, as these nurses were working within an environment which directly threatened their health, it is difficult to determine if their symptoms originated from exposure to direct, or indirect trauma, or both. As a result, research within directly threatening contexts employing PTSD measures may be less helpful for understanding secondary trauma (see Section 4.4.3.3).

PTSD diagnosis or trauma symptoms are not inevitable consequences following exposure to direct or indirect trauma (Brewin, 2003; Adams et al., 2006). This would suggest that other factors are involved and several meta-analyses have revealed associations with gender, race and age (Brewin et al., 2000). However, demographic factors appear less important than the psychological context surrounding exposure. Trauma severity, social support and existing stressful experiences made a greater contribution to explaining symptoms or diagnosis (Brewin et al., 2000; Ozer et al., 2008).

Research into PTSD risk factors is on-going and at present it is unclear if the manner of exposure impacts on symptom severity or duration. This would be a difficult question to address for both ethical and practical reasons. However,

some researchers argue that secondary trauma may not be a form of PTSD as defined by the DSM (Lerias and Byrne, 2003). This thesis will not attempt to resolve this debate; however it is important to note some of the complexities within this research area. For the sake of clarity the term secondary trauma will refer to symptoms originating from indirect or secondary exposure to trauma, including data gathered using PTSD measures. In contrast, Secondary Traumatic Stress (STS) will refer to symptoms as assessed by a specific indirect trauma measure, such as the Professional Quality of Life Scale (ProQoL).

3.2.2 Secondary traumatic stress

Secondary Traumatic Stress (STS) is a term referring to symptoms of PTSD which may occur in witnesses or professionals involved in care and recovery (Figley, 2005). It resembles diagnostic criteria for PTSD (American Psychiatric Association, 2000), and as described in Figure 3.1, events are regarded as traumatic if a person experiences, witnesses or is confronted by an incident that involved actual or threatened harm to themselves or others and they respond with intense fear, helplessness or horror (Adams et al., 2008; Stamm, 2010). Symptoms include hyper-arousal, disturbing flashbacks and a need to avoid trauma associations (Sherman et al., 2005). However, STS is employed less precisely than PTSD, and may refer to trauma symptoms, rather than full diagnostic criteria.

An explanation for STS suggests it develops as a result of identification and empathic engagement, in which the professional attempts to understand the experiences of their patient. This resulting awareness of another's pain or vulnerability can lead to distress including symptoms of trauma (Figley, 1995a, 2005). This pathway is theoretical, and currently has not received empirical support (Sabo, 2006).

3.2.3 Compassion fatigue

Figley (1995a) argued that Compassion Fatigue (CF) and STS can be used inter-changeably to describe detrimental symptoms and emotional responses to working with survivors of some form of trauma. Stamm (2010) refined this definition and suggested that CF represents the negative reactions of exposure to other's distress, in contrast to compassion satisfaction, the intrinsic reward from helping others. CF incorporates two reactions, Secondary Traumatic Stress (STS) and burnout (operationalized as exhaustion, depression and frustration). STS according to Stamm (2010) resembles PTSD and reactions may include impaired sleep, fear and avoidance.

Dearth of current research makes it unclear if CF is distinct from other concepts (Sabin-Farrell and Turpin, 2003; Sabo, 2006). However the area is developing and Stamm (2010) argued that secondary trauma is not necessarily pathological and should not be considered as equivalent to PTSD. The current measure, therefore, should be cautiously employed for guidance rather than clinical diagnosis (Stamm, 2010).

A wider search of the literature revealed a similar measure. The Compassion Fatigue Scale has been validated for social-workers working within New York City following the September 11th terrorist attacks (Adams et al., 2008). Therefore, it is unclear how appropriate it would be for nurses working within less threatening contexts. Moreover, the systematic search did not reveal any published studies employing this tool with nurses (Chapter 4).

3.2.4 Related concepts

3.2.4.1 Burnout

Burnout has been studied in occupational groups engaged in some form of "emotion-work" which involves intense engagement with a client group (Maslach et al., 1996). This phenomenon has been documented within education (Watts and Robertson, 2011), law enforcement (Schaufeli and Buunk, 2003) and nursing (Richards et al., 2006).

Within the literature the terms burnout and compassion fatigue have been used interchangeably (e.g. Maytum et al. (2004)), however, it is important to note distinctions. The most frequently employed tool, the Maslach Burnout Inventory – MBI – (Maslach et al., 1996) demonstrated positive correlations with secondary trauma scores, however burnout is a related but separate experience, as confirmed by tests of discriminant validity (Jenkins and Baird, 2002). Therefore, it is ill-advised to consider burnout as equivalent to secondary trauma.

The explanation of burnout argues that due to interacting with patients who require care, attention and an empathic approach, nurses can feel as if their emotional reserves are being depleted (this is termed *emotional exhaustion*). In addition, with the erosion of empathic resources nurses become distanced and numbed towards the concerns of their patients (*depersonalisation*). The final component describes how due to feeling overburdened with other's problems nurses feel as if they are not being productive of progressing professionally, this is described as decreased *personal accomplishment* (Maslach et al., 1996). Associated symptoms include sleeplessness, headaches and gastro-intestinal disturbances (Leiter, 2005) with burnout impacting on nurses' ability to both provide optimal care and also feel as if they are functioning as a competent professional. Accordingly, with burnout linked to diminished job satisfaction and voluntary job-turnover, these negative experiences have the potential to im-

pact upon staffing levels and patient outcomes (Vahey et al., 2004). Burnout is therefore highly relevant for studies exploring the welfare of healthcare staff, however it is not a form of secondary trauma.

Burnout offers a useful framework and measure for assessing the impact upon staff of emotionally intensive roles; and arguably it offers a better conceptual framework for explaining distress than secondary trauma. Moreover, the MBI has currently received more rigorous testing than the ProQoL and STS. The MBI has demonstrated validity and reliability internationally and within differing organisational contexts (e.g. Vercambre et al. (2009); Sabbah et al. (2012)). Despite burnout opposing professionally acceptable behaviours, especially within healthcare, the MBI is not subject to social-desirability bias (Maslach and Jackson, 1981). Additionally, the MBI demonstrated discriminant validity with depression and job dissatisfaction, suggesting that burnout is a separate experience (Maslach and Jackson, 1981). Until secondary trauma measures receive such scrutiny, their findings should be interpreted cautiously. Further detail about the MBI is provided in Chapter 7.

3.2.4.2 Vicarious trauma

Vicarious trauma (VT) has been used to describe shifts in perceptions and world-view in professionals, such as therapists and social workers, with these cognitive changes apparently resulting from exposure to another's trauma (McCann and Pearlman, 1990; Sabin-Farrell and Turpin, 2003). Although STS may include a heightened sense of threat perception, it is arguably quantitatively and qualitatively different from VT (Baird and Kracen, 2006). Tests of discriminant validity suggest it is experienced differently, and unlike other concepts of secondary trauma, VT tools assess cognitive, rather than social and emotional responses (Jenkins and Baird, 2002). For example, as a result of

empathic engagement with victims of crime, therapists may experience disruptions to previously held beliefs about personal safety (Baird and Kracen, 2006). Additionally, as VT is more commonly used to an explanation for responses in professionals other than nurses, it did not receive further investigation within this thesis.

3.3 Measures

The choice of concept and measure should be considered carefully as each has potential strengths and limitations. Therefore, Table 3.1 summarises tools used to assess symptoms of secondary trauma in samples of nurses. Further information is provided on these studies within the systematic review (Chapter 4).

3.3.1 PTSD measures

The literature review revealed that secondary trauma in nurses has been assessed using four PTSD measures: the Impact of Event Scale; Penn Inventory; Posttraumatic Stress Diagnostic Scale (PDS) and Posttraumatic Stress Syndrome Questions Inventory. As a result different symptoms may be assessed, for example the Impact of Event Scale (IES) assesses severity of intrusion, avoidance and hyperarousal symptoms, whereas, the PDS provides a diagnosis according to full DSM-IV-TR criteria (Figure 3.1 in American Psychiatric Association (2000)).

Some researchers have argued that PTSD measure may be less suitable for assessing impact of indirect exposure to trauma (Lerias and Byrne, 2003). Motta et al. (1997) claimed that secondary trauma sufferers experience less severe symptoms than individuals reaching PTSD diagnosis, therefore distress may go unrecognised and PTSD tools may be less appropriate for relatively safe envi-

Table 3.1: A comparison of secondary trauma measures

Measure	Secondary trauma concept	Applicable to civilians or professionals?	Intended population	Psychometric rigour	Screening or diagnosis
Penn Inventory	PTSD	Both	Combat veterans and civilians	High reliability, internal consistency and validity (Hammarberg , 1992)	Screening
Impact of Event Scale (IES)	PTSD	Both	Clinical populations	Satisfactory reliability and validity (Joseph, (2000)	Screening
Posttraumatic Diagnostic Scale (PDS)	PTSD	Both	Clinical populations	Reliability, internal consistency and validity confirmed (Mealer et al, 2009)	Both
Posttraumatic Stress Syndrome Questions Inventory 10 (PTSS-10)	PTSD	Both	Clinical populations	Established sensitivity and specificity for PTSD. Good reliability and internal consistency (Mealer et al, 2009)	Screening
Professional Quality of Life Scale (ProQoL)	Compassion fatigue/STS	Professionals	Helping professionals	Not currently independently verified or published by peer reviewed source	Screening
Secondary Traumatic Stress Scale (STSS)	Secondary traumatic Stress (STS)	Professionals	Social workers	Reliability, convergent, discriminant and factorial validity established (Bride et al, 2004)	Screening

ronments. However, the use of PTSD tools to assess impact on staff in both relatively safe and threatening settings contributes to the debate over differences in severity between personal secondary trauma (Motta et al., 1997).

3.3.2 Secondary trauma scales

In addition to the many PTSD tools, measures have been specifically designed to assess reactions in helping professionals. The following have been employed within the published literature to assess secondary trauma in nurses.

3.3.2.1 The STSS

The Secondary Traumatic Stress Scale (STSS) use three sub-scales assess symptoms corresponding with DSM-IV-TR (American Psychiatric Association, 2000) criteria for PTSD. Unlike the ProQoL, the STSS only measures secondary trauma, not the related concepts of compassion satisfaction and burnout. Another distinction is that the STSS is reported to be the only single concept scale specific to trauma from the perspective of witness or carer (Beck, 2011). The IES and Penn Inventory have been used to measure secondary trauma, as well as personal trauma (Hammarberg, 1992; Joseph, 2000). Consequently Najjar et al. (2009) express concern about the appropriateness of using measures of direct exposure impact to assess secondary trauma. The STSS was created as a self-report measure for assessing secondary trauma symptoms in social workers and tested well for validity and rigour for this sample (Bride et al., 2004). Quinal et al. (2009) adapted the tool by changing the word *client* to *patient*, however the suitability for nurses has not been clearly established.

3.3.2.2 ProQoL

The Compassion Fatigue Self- Test for Practitioners (CFST) (Figley, 1995a) was adapted and renamed as The Professional Quality of Life Compassion and Satisfaction Subscale Revision III – ProQoL– (Stamm, 2010). This revision included a burnout scale to appraise the energy reduction facets of secondary trauma (Jenkins and Baird, 2002) and to accommodate positive consequences of working with suffering patients, a satisfaction sub-scale was also added (Stamm, 2010).

Although the ProQoL is one of the most frequently used secondary trauma tools (Stamm, 2010) tests of psychometric rigour are not currently available in the published literature (Komachi et al., 2012). To balance these concerns the present study included highly validated standardised measures of general health and occupational distress (for details see Section 7.2.5).

3.3.3 Measures summary

As described in the literature (Chapter 4) proportions of participants meeting at risk criteria for secondary trauma varies greatly. Prevalence varied from 0 to 50% depending on the sample, scale and interpretation. Therefore the choice of secondary trauma measure should be considered carefully. Of all the secondary trauma concepts PTSD is the most established and has been supported by extensive investigation. Many validated measures are available, however, there is a concern that they may be less appropriate for assessing impact on staff populations.

A critical review of available tools suggested that the chosen secondary trauma measure should be a suitable fit for the sample and the goals of the study. Elswood et al. (2011) argued that the STSS best corresponds with PTSD criteria, and therefore, if examining secondary trauma from a PTSD perspective this

tool would be most suitable. If secondary trauma is understood as changes to cognitions, a vicarious trauma measure would be appropriate. To explore both positive and negative reactions to trauma work the ProQoL is recommended.

3.3.4 Conclusions

Due to poor conceptualisation and absence of a clear gold-standard measure, researchers advise using a secondary trauma measure most appropriate to the characteristics of the study (Elswood et al., 2011). This chapter described the available concepts and measures and the following chapters will justify choices of quantitative tools. Information guiding this decision came from a systematic search of the literature (Chapter 4) a review of available methodologies and designs (Chapter 5) and themes qualitative interviews with nurses (Chapter 6).

Chapter 4

Literature review

4.1 Introduction

Researchers have offered several constructs to describe the impact of exposure to other's trauma, including compassion fatigue, PTSD and vicarious trauma. These constructs are often used interchangeably and possess commonalities as well as subtle distinctions (Elswood et al., 2011). To clarify, this review will use the term secondary trauma as an umbrella term to describe symptoms of trauma in nurses resulting from exposure to patients' distress. Within the literature there are few definitive accounts of secondary trauma and diverse terms have been used (Aycock and Boyle, 2009) and arguably secondary trauma research has been limited by poor conceptualisation (Najjar et al., 2009). For a more detailed critique see Chapter 3.

4.2 Scoping literature review

This PhD project began with a general scoping literature review of secondary trauma research in nurses. This initial review aimed to reveal if sufficient evidence existed to warrant further exploration, the results were then applied to

conduct a more focused systematic search (see section 4.4).

4.2.1 Scoping search strategy

Six electronic databases of biomedical and nursing literature were searched using 17 terms as detailed in Tables 4.1 and 4.2. Studies were excluded if they failed to define their understanding of distress or if secondary trauma data could be compromised by an existing sense of threat, for example, if nurses worked within recognised trauma-inducing contexts, such as natural disasters. Full exclusion criteria detailed Table 4.3.

Table 4.1: Databases employed in the scoping search

Database	Focus	Time frame
Medline	Bio-medical literature	1966 to December 2007
Embase	Bio-medical literature	1980 to December 2007
CINAHL Cumulative Index to Nursing & Allied Health	Nursing and allied health professions	1981 to December 2007
PsychINFO	Psychology and related disciplines	1984 to December 2007
BNI British Nursing Index	Nursing journals	1985 to December 2007
The Cochrane Library	Medical research	1980 to December 2007

4.3 Results of scoping review

The diagram in Figure 4.1 details the search process.

The search of the literature revealed nine studies using quantitative data collection and twelve employed mixed or qualitative methods, as summarised in Table 4.4.

Table 4.2: Search terms employed in the scoping review

Search terms
Adaptation psychological
Nurses
Nursing personnel
Compassion Fatigue
Vicarious stress
Secondary stress
Secondary trauma
Posttraumatic stress disorder
Coping behaviour
Social support
Emotional contagion
Empathetic concern
Indirect stress
Vicarious exposure
Indirect exposure
Secondary exposure
Stress disorders
Stress
NHS nurses

Table 4.3: Exclusion criteria employed in the scoping review

Category	Details	Exclusions
Publication details	Peer-reviewed Empirical investigation English language publications	Non peer-reviewed Commentary, editorials, letters, advice, advice, book reviews and literature reviews Unavailable in English
Sample demographics	Nurses with explicit patient contact Registered nurses, nursing assistants, nursing auxiliaries, student nurses Full and part-time employees	Nurses with exclusively administrative or management roles
Sample working conditions	Nurses working in environments which do not induce an excessive and reasonable fear for their own safety	Nurses working in environments which can induce an excessive and reasonable fear for their own safety Studies of workplace violence War zones (.e.g. Vietnam, Iraq) Epidemics (.e.g. SARS, HCN1) Natural disasters (.e.g. Hurricane Katrina,) Terrorist attacks (.e.g. 911)

Figure 4.1: Scoping literature search

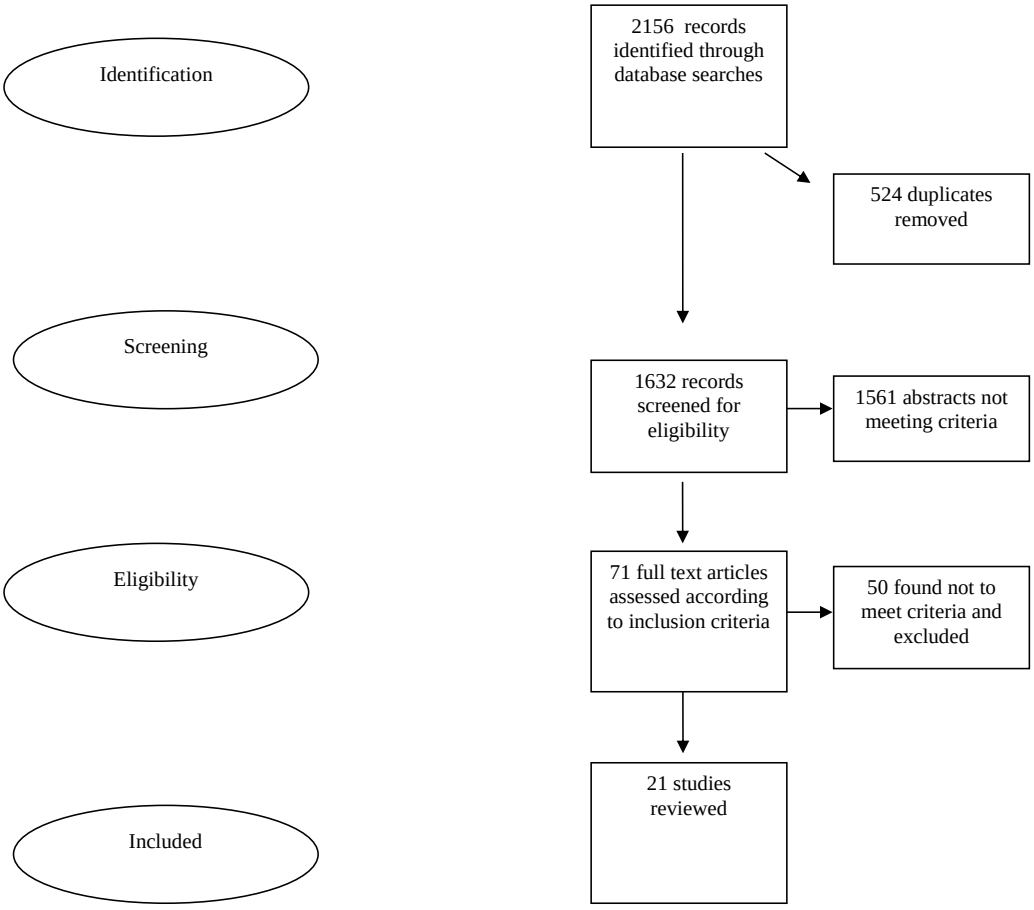


Table 4.4: Retrieved articles

Author	Methods	Understanding of nurse distress	Main findings
Ablett & Jones (2007)	Qualitative 10 palliative care nurses UK	Resilience- a personal hardiness that protects nurses working within a stressful environment from psychological distress. Distress from job-related frustration and over-identifying with patients.	Empathy promoted understanding and improved perceived quality of care. Nurses experienced satisfaction from listening to and supporting patients, generally making a difference and "providing a good death".
Brysiewicz, (2002)	Qualitative 7 accident and Emergency (A&E) nurses USA	Guilt, anger, sadness, physical reactions, unemotional behaviour, avoidance	Reactions to witnessing violent death included anger, sadness, guilt, intrusive thoughts, hyper-arousal, avoidance, emotional numbing. Participants expressed a need for debriefing from someone who understood following distressing events.
Cooper & Barnett, (2005)	Qualitative 62 student nurses UK	Anxiety induced from certain aspects of caring for dying patients	Caring for younger patients, sudden deaths were associated with greater anxiety. When deaths occurred outside the perceived "natural progression" nurses were more likely to become distressed.
Michael & Jenkins, (2001 *a; 2001 b)*	Mixed 233 perioperative nurses Australia	PTSD- as a result of exposure to violent injury and catastrophic distress in patients. Intrusion and avoidance from unexpected patient deaths. PTSD assessed using Impact of Event Scale (IES)	Traumatic events were reported by 160 of the 233 participants. Traumatic events included the death of a patient during or following surgical intervention.. However, the most frequently reported form of trauma did not relate to witnessing patients in distress or dying, abuse or violent behaviour was the most frequent traumatic event for these nurses.
White, Wilkes, Cooper & Barbato, (2004)	Qualitative 9 palliative nurses Australia	Emotional distress and physical symptoms, exacerbated if nurses experienced a connection with the patient.	The impact of the patients' unrelieved suffering was exacerbated for nurses who felt a connection with the patient. Distressing factors in the nurses' personal lives also had a negative impact.
Florio, Donnelly & Zevon, (1998)	Mixed 59 Oncology nurses USA	Emotional stress-anxiety, re-occurring thoughts about dead patients, negative self-appraisal, guilt and fear	Low patient contact and internal stress was associated with negative self-appraisals and carryover stress. In contrast high patient contact and internal stress were associated with death and dying and observing suffering

Author	Methods	Understanding of nurse distress	Main findings
Florio, Donnelly & Zevon, (1998)	Mixed 59 Oncology nurses USA	Emotional stress-anxiety, re-occurring thoughts about dead patients, negative self-appraisal, guilt and fear	Low patient contact and internal stress was associated with negative self-appraisals and carryover stress. In contrast high patient contact and internal stress were associated with death and dying and observing suffering
Helps, (1997)	Mixed 51 A&E nurses UK	Occupational stress (PTSD and burnout) from witnessing children's deaths and dealing with bereaved relatives. Data collected using Posttraumatic Stress Diagnostic Scale and Maslach Burnout Inventory (MBI)	Sources of greatest occupational stress included the death of children and infants, and bereaved relatives. Sources of greatest occupational satisfaction included positive patient outcomes and interaction. The staff suggested that regular stress workshops, debriefing, more clinical supervision and a time-out room be provided
Jonsson & Halabi, (2006)	Qualitative 79 medical, surgical and trauma nurses Jordan	PTSD -intrusive memories, feeling vulnerable, denying feelings	Most upsetting incidents included: Death of a child. Threat or harassment. Death or illness of a family member Nurses reported intrusive thoughts and memories. They felt a need to talk and share their experiences but a reluctance to be honest with colleagues about their reactions.
Jonsson & Segesten, (2003)	Qualitative Mixed sample including 122 ambulance nurses Sweden	PTSD- intrusive memories, distancing, identification, a need for understanding	Traumatic events were reported by 223 of the 362 participants.6 common elements were identified: Meeting with the unforeseen and meaningless. Attention focusing. A strong sense of compassion. Identification with the victim. Difficulty leaving the memories behind. Gaining understanding
Mackintosh, (2007)	Qualitative 16 nurses, context unknown UK	Burnout- similar to Maslach & Jackson's (1981) 3 component definition Burnout-overwhelming stressful work environment, emotional defences overwhelmed, psychological withdrawal	Nurses felt that compassion was vital and that good relationships with patients were beneficial to the care process. Without the appropriate barriers nurses felt vulnerable to emotional demands of caring for others. They felt it was vital for their own wellbeing to be able to switch-off to others' distress. Previous experience helped the nurses to develop suitable coping strategies.
Maytum, Heiman & Garwick, (2004)	Qualitative 20 paediatric nurses USA	Burnout and compassion fatigue (CF) used interchangeably to describe the costs of caring. CF viewed as less serious by participants, emotional exhaustion Burnout perceived as the result of CF.	Burnout triggers included work overload and a lack of support. CF was reportedly triggered by exposure to traumatised groups.

Author	Details	Understanding of nurse distress	Main findings
Laposa, Alden & Fullerton (2003)	Quantitative 51 accident and emergency nurses Canada	PTSD assessed by Posttraumatic Stress Diagnostic Scale (PDS)	12% met full PTSD diagnostic criteria 20% met the criteria from 3 out of the 6 criterion clusters. The top 6 most upsetting events included providing care to a patient who is a close friend or relative, traumatised patient who resembles self or family members in age or appearance.
Mealer, Shelton, Berg, Rothbaum & Moss (2007)	Quantitative ICU nurses (n=230 General(n=121) USA	PTSD assessed by Post Traumatic Stress Syndrome 10 Questions Inventory	Shift work on the ICU was associated with PTSD
Hilliard (2006)	Quantitative 17 palliative care nurses USA	Compassion Fatigue (CF) assessed by Compassion Fatigue Self-Test for Practitioners	No significant improvements in CF risk following group music therapy Significant improvement in team building for both types of music therapy
Abendrof & Flannery (2006)	Quantitative 216 palliative care nurses USA	Compassion Fatigue assessed by Professional Quality of Life Compassion and Satisfaction Subscales Revision-III (ProQoL-R-III)	91% of the participants had a high risk for burnout 80% showed moderate to high risk for CF
Meadows & Lamson, (2008)	Quantitative 115 paediatric nurses USA	Compassion Fatigue assessed by an untested tool, formulated by the researchers and based on work by Figley (19995 a)	Higher personal stressors were associated with high CF and clinical stress
Anderson & Gaugler (2006)	Quantitative 136 certified nursing assistants USA	Disenfranchised and Complicated Grief assessed by Death Attitude Profile-Revised	Number of deaths- negatively predicted complicated grief reactions Fear of death positively predicted complicated grief reactions
Omdahl & O'Donnell (1996)	Quantitative 164 nurses USA	Emotional Contagion and Empathic Concern assessed by Emotional Empathy Measure and Interpersonal Reactivity Index (IRI) Burnout (MBI)	Emotional contagion significantly reduced occupational commitment. Reduced Personal Accomplishment was predicted by high emotional contagion, lack of empathetic concern and poor communicative responsiveness. Emotional contagion predicted Emotional Exhaustion. Depersonalisation was predicted from lack of empathetic concern and poor communicative responsiveness
Livingston & Livingston (1984)	Quantitative General hospital nurses (n=70), Psychiatric hospital (n=50), Mental handicap hospital (n=53) UK	Anxiety and depression assessed by General Health Questionnaire-60	Age, early career, involvement with routine patient care and higher clinical contact were associated with greater psychological disturbance.
Feldstein & Gemma (1995)	Quantitative 50 oncology nurses USA	Chronic compound grief assessed by Grief Experience Inventory	Nurses experiencing distress may not necessarily resign or request a transfer.

4.3.1 Scoping review summary

The review provided preliminary evidence of nurses' vulnerability to distress as a result of witnessing suffering in others, suggesting research support for secondary trauma in nurses. Patient contact and nurse inexperience were considered as key risk factors (Macintosh, 2007), with younger nurses with greater patient contact showing increased depression and anxiety (Livingston and Livingston, 1984). Education and experience were thought to strengthen personal barriers and lessen the dangers from over-identification with patients (Macintosh, 2007). Therefore it would appear that nurse empathy plays a strong contributing role in care-related distress. However, as a result of less stringent search criteria it is unclear if these studies are measuring the same phenomena, or related but distinct experiences.

Inclusion criteria required that all studies provide a clear definition of nurse distress and the majority of quantitative investigations also employed standardised validated measures. However the inclusion of non-validated measures limits the conclusions of this review. For example, Meadors and Lamson (2008) and Florio et al. (1998) employed untested measures. Helps (1997) created a scale based upon APA (American Psychiatric Association) diagnostic criteria for PTSD, however the sensitively of this measure is unknown. Given confused boundaries with related concepts, specific and validated tools would enable greater confidence that secondary trauma is actually being assessed and therefore tested tools are required to support the construct validity secondary trauma (Sabin-Farrell and Turpin, 2003).

Standardised measures permit scores to be compared in multiple contexts, potentially enabling meta-analysis to contrast prevalence and severity of secondary trauma across different working environments and even different countries. Therefore the refined literature search (see 4.4.3.3) specified only validated

standardised measures.

This initial search retrieved both qualitative and quantitative studies, which can be advantageous when empirical data is scarce (Dixon-Woods et al., 2002). However synthesis of qualitative and quantitative data requires a transparent, and ideally rigorous, strategy (Dixon-Woods et al., 2002) especially as researchers have noted discrepancies between qualitative and quantitative findings of secondary trauma (Sabin-Farrell and Turpin, 2003). Accordingly, the refined literature review employed a detailed data extraction form to aid synthesis and evaluation (See 4.4.3 Review methodology and Appendix S). In addition, the later search revealed sufficient quantitative articles to address the aims and therefore qualitative studies were not included (see sections 4.4.3.3 and 4.5). Qualitative data was however employed to explore the phenomena from the perspective of the nurses and qualitative studies retrieved by this search were used to inform the design of the explorative interview component of this project (see Chapter 5).

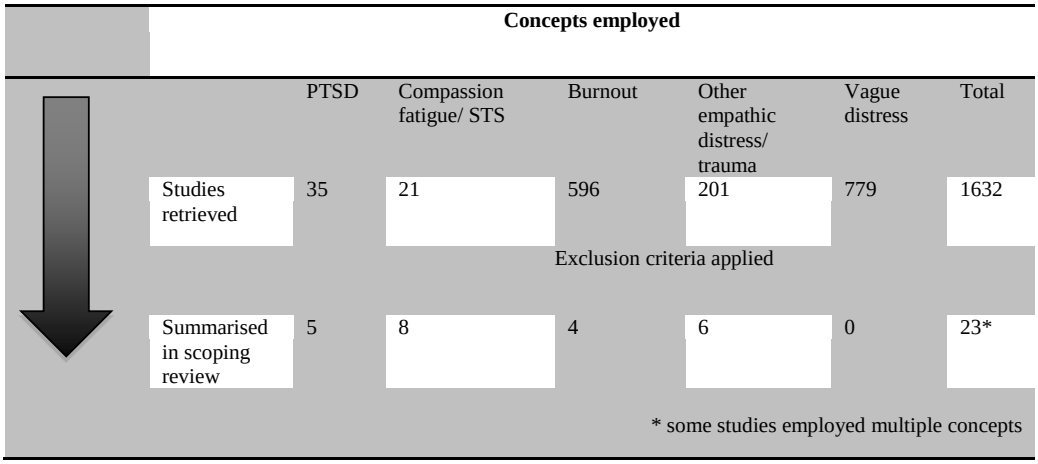
4.3.2 Concepts and tools

The search determined that a variety of concepts had been used to measure and describe what have been termed "the costs of caring" (Figley, 1995a), as summarised in Figure 4.2.

Of all the search terms (see Table 4.2), the most affective for retrieving relevant evidence were PTSD, compassion fatigue, secondary trauma and secondary stress. The more general terms such as stress, empathic concern, stress disorders were less able to retrieve studies sufficiently focussed to address the aims of the review.

Search terms not associated with standardised measures, such as indirect stress, indirect exposure, emotional contagion, secondary exposure were also less help-

Figure 4.2: Concepts used within the literature



ful, and more likely to retrieve commentary than empirical studies. These more general terms had been employed in accordance with the explorative aims of the review and a concern that relevant information would be missed due to diverse conceptualisation. However, as the retrieved studies employed novel and untested measures their inclusion was not useful for seeking a consensus about secondary trauma. Accordingly the refined quantitative review searched by terms associated with standardised measures (see Section 4.4). The following concepts emerged as the most suitable for assessing secondary trauma and they were consequently applied during the systematic search and later during quantitative data collection (see Chapter 7).

4.3.3 Secondary trauma concepts

4.3.3.1 Posttraumatic Stress Disorder (PTSD)

Exposure to actual or threatened death, or serious injury, or a threat to the physical integrity of others can result in symptoms of trauma in healthcare professionals. If these symptoms conform to DSM-IV-TR criteria (summarised

in Chapter 3), a diagnosis of PTSD may be reached (American Psychiatric Association, 2000). PTSD is a well-defined concept, it can occur due to direct or indirect exposure to trauma and a range of validated measurement tools are available. Consequently researchers studying secondary trauma may also employ PTSD screening tools and diagnostic measures.

4.3.3.2 Secondary Traumatic Stress (STS)

As argued in Chapter 3, PTSD is relevant for both initial victims and all affected by their subsequent distress; whereas the term Secondary Traumatic Stress (STS) describes negative consequences of being exposed to another's trauma. Symptoms have been assessed using the Secondary Traumatic Stress Scale – STSS – (Bride et al., 2004) a validated measure based upon DSM-IV diagnostic criteria for PTSD.

4.3.3.3 Compassion fatigue

As detailed in Chapter 3 compassion fatigue incorporates two negative reactions potentially affecting healthcare professionals: burnout and Secondary Traumatic Stress (STS). These responses have been assessed by the Professional Quality of Life Scale – ProQol – (Stamm, 2010).

4.3.4 Related concepts

4.3.4.1 Vicarious trauma

Despite limited research support, compassion fatigue, STS and PTSD share similarities (as reviewed in Chapter 3). In contrast VT, with its emphasis on cognitive transformation, appears to be a distinct concept and it is therefore excluded from the following systematic review (see Section 4.4).

4.3.4.2 Burnout

Burnout is a specific form of occupational stress demonstrated in human-service workers (Maslach and Jackson, 1981). As described in Chapter 3, burnout has a gradual onset and results from prolonged emotional engagement, rather than exposure to trauma, it is therefore a related but distinct concept and consequently was excluded from the systematic literature review (Jenkins and Baird, 2002).

4.3.5 Summary of secondary trauma concepts

Additional investigation is required not only to assess the validity of these concepts but also to contribute to theoretical debate about the nature of nurse distress. Secondary trauma and burnout suggest different implications for the workforce and different remedial strategies. Whereas, burnout is thought to be situation specific and has a gradual onset (Maslach et al., 1996), secondary trauma can develop suddenly and with greater severity and temporary respite from the work context will not relieve symptoms (Figley, 1995b). Therefore, in order to be able to design appropriate tailored interventions or prevention strategies further understanding is required.

4.3.6 Scoping review conclusions

This scoping literature review aimed to determine current understanding about the psychological consequences for nurses caring for vulnerable or distressed patients. It was conducted to ascertain how this area had been investigated, the results of previous investigations and scope for further study. However, the review revealed the existence of many over-lapping concepts and an overall lack of clarity within this research area. As a result it is important to conduct a

more focussed review of the literature.

4.4 Refined literature review

4.4.1 Existing systematic literature reviews of secondary in nurses

Three literature reviews were identified: Najjar et al. (2009); Beck (2011); Yang and Kim (2012). Their contributions and scope for improvement are briefly summarised.

Najjar et al. (2009) scrutinised 14 articles describing prevalence in cancer-care providers and included cross-occupational data therefore specific impact upon nurses remains unclear. Management strategies for secondary trauma were described, yet not explicitly evaluated and a description of risk factors was provided. However the review did not explain how these predictors were established and verified.

Beck (2011)'s review of seven papers sought to determine which samples of nurses have been investigated and which quantitative tools had been used. However details of the synthesis were not provided. Samples included nurses, however subgroups were not analysed separately, hereby not elucidating the specific impact upon nurses. Accordingly, scope exists for a review which focuses more explicitly upon nurses and contributes to understanding of interventions to mitigate.

Yang and Kim (2012)'s review aimed to reveal trends, factors associated with distress and overall prevalence. Included material may be less suitable for addressing questions about secondary trauma as synthesis included data from the related, but distinct concept, of Vicarious Trauma (4 studies). The review also included untested and vague measures (3), qualitative data (1), pooled data

from mixed occupations (9) and nurses working within with an existing heightened sense of threat, such warzones (4). It is therefore important that future reviews apply more stringent screening to ensure conclusions are based on the highest quality and most relevant data available.

4.4.2 Systematic literature review aims

Building on from Beck (2011), this literature review aimed to summarise and evaluate current understanding of secondary trauma in nurses with a specific focus on identified risk factors and prevention strategies. Accordingly the review sought to address the following points:

1. What is known about the prevalence or extent of secondary trauma (ST) within nursing staff?

2. What variables predict/explain the experience of ST?

3. What strategies have been used to mitigate ST and where used with what success?

4.4.3 Review methodology

A systematic literature was selected as this method focuses on scrutinising literature able to address a specific research question (Oxman, 1994; Eriksson and Lindström, 2000; Kitchenham, 2004). A data extraction form (Appendix S) was thus created in adherence to health research guidance to retrieve details of the sample, setting, designs, outcome measures and findings (Zaza et al., 2000). Two authors scrutinised the retrieved articles and data extraction forms were completed independently. The initial search was conducted in July 2011 with material retrieved and reviewed for inclusion during August 2011. To ensure the

inclusion of newly published articles, automatic search updates were employed from August 2011 to March 2013.

4.4.3.1 Search strategy

Relevant electronic databases were identified and a hand search of reference lists and key journals conducted. The review aimed to reveal explanations for secondary trauma and details of interventions, to reflect these aims the search terms were "nurs*" AND "secondary trauma" AND "predictor" OR "remedy term" as per Table 4.5.

Table 4.5: Search terms

Secondary trauma terms	Predictor terms	Remedy terms
Secondary trauma	Explan*	Prevent*
Secondary traumatic stress	Explain*	Intervention
Compassion fatigue	Risk*	Treatment
Secondary posttraumatic stress disorder	Predict*	
Secondary victimisation		
Secondary stress disorder		

4.4.3.2 Databases

Seven databases from medicine, nursing and psychology were searched. Details of the time frame and remit covered can be seen in Table 4.6.

4.4.3.3 Inclusion criteria

Guidelines argue that included studies should be high quality and relevant to the review's aims, and inclusion of weak, unverifiable data potentially limits interpretations (Gough, 2007; Oxman, 1994).

Table 4.6: Databases searched

Database	Focus	Time frame
BNI British Nursing Index	Nursing journals	1985 to 2013
CINAHL Cumulative Index to Nursing & Allied Health	Nursing and allied health professions	1981 to 2013
Embasse	Bio-medical literature	1980 to 2013
PILOTS Published Literature on Traumatic Stress	PTSD literature and related mental health conditions	1871 to 2013
Medline	Bio-medical literature	1966 to 2013
PsychINFO	Psychology and related disciplines	1984 to 2013
The Cochrane Library	Medical research	1980 to 2013

This review sought to determine predictive factors and interventions tested by objective replicable measurements. Inclusion required that articles employed standardised quantative measures which had been subject to testing for rigour and suitability. Newly created, untested measures and non-empirical sources (including commentary, book reviews, advice and editorials), were excluded. Included studies measured and addressed the impact of any secondary trauma resulting from patient engagement, with studies of nurses exclusively performing administrative or managerial roles excluded. This review did not include data from combat situations, natural disasters or terrorist attacks as nurses working within these settings may experience both personal and vicarious threats, therefore the source of any distress can be unclear. Evidence suggests prevalence may vary between occupational groups working in the same healthcare setting (Robins et al., 2009), therefore cross-occupation studies were excluded unless scores from nurses were compared separately. A summary of the inclusion criteria is provided in Table 4.7.

Table 4.7: Inclusion criteria

Category	Details
Study details	Peer-reviewed Empirical investigation English language publications
Data collection	Quantitative and mixed methodology studies Standardised tested measure
Sample demographics	Study participants are nurses Nurses with a (human) patient-contact role (Including: registered nurses, nursing assistants, nursing auxiliaries, student nurses, full and part-time employees)
Sample working conditions	Nurses working in environments which do not induce an excessive and reasonable fear for their own safety

4.5 Results

4.5.1 Records retrieved

961 results were screened according to eligibility criteria as summaries in the following PRISMA (Moher et al., 2009) flowchart (Figure 4.3). The included studies are summarised in Table 4.8.

Figure 4.3: Stages of the systematic review

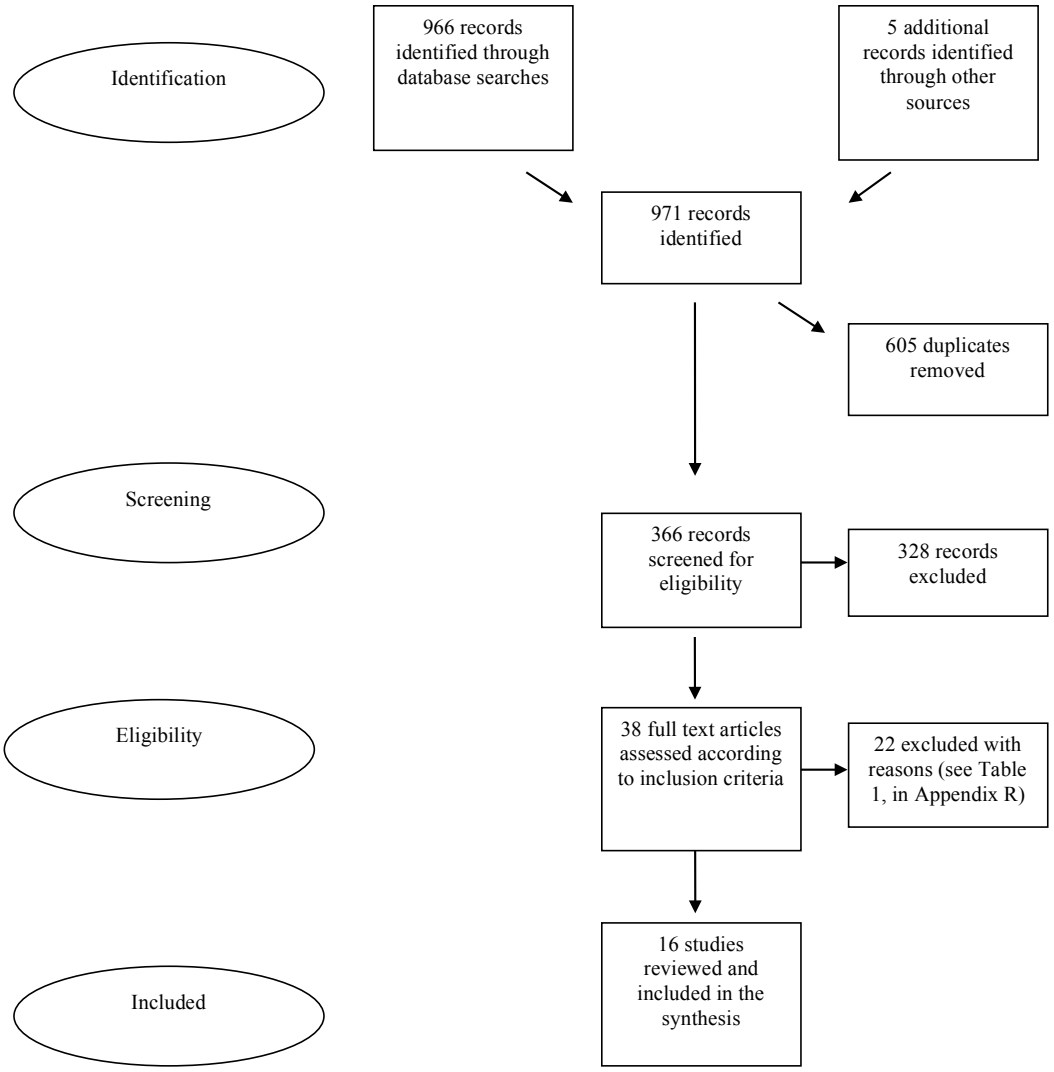


Table 4.8: A summary of papers included in the review

Study	Addresses review questions	Location	Sample	Concept	Findings
Abendrof & Flannery (2006)	1) Prevalence ☑ 2) Explanations ☑ 3) Evaluated strategies ☒	USA, Florida, 22 Hospices	216 nurses Palliative care M=12 , F= 204 Response rate to posted surveys (n=166) =38.6%, Symposium surveys (n=50) =33% Mean age=53.9 (9.05)	Compassion fatigue using ProQOL-CSF-R-III	CF mean= 13.6 (SD= 6.59) Minimum 21.3%, n=46 Moderate 52.3%, n=113 High 26.4%, n=57 91% of the participants had a high risk for burnout 80% showed moderate to high risk for CF No significant differences according to shift patterns, age, ethnicity or marital status
Burtson & Stichler (2010)	1) Prevalence ☑ 2) Explanations ☑ 3) Evaluated strategies ☒	USA, South West, academic medical centre	126 nurses medical-surgical, critical care and emergency department M=15, F=111 Response rate=28% Mean age= 40.15 (10.56)	Compassion fatigue using ProQoL R-IV	Compassion satisfaction mean =37.94(SD= 7.65) Burnout=23.11 (7.09) Compassion fatigue=14.64 (7.44) Compassion satisfaction explained 28.7% of variance in nurse caring
Czaja, Moss & Mealer (2012)	1) Prevalence ☑ 2) Explanations ☑ 3) Evaluated strategies ☒	USA, Colorado tertiary children's hospital with a level 1 trauma centre	173 paediatric nurses M=13 F=160 Response rate= 42.8% Mean age= 35 (9)	PTSD- from Posttraumatic Diagnostic Scale (PDS) according to DSM	Means not provided n=36 met criteria for PTSD (20.8%) No significant differences between wards, by age or other demographics PTSD group significantly more likely to consider career change and positively screen for depression and anxiety
Dominguez-Gomez & Rutledge (2009)	1) Prevalence ☑ 2) Explanations ☑ 3) Evaluated strategies ☒	USA, rural Southern California, 3 general community hospitals	67 Emergency department M=14 F= 52 Mean age=42.62 Response rate=60.36 %	Secondary Traumatic Stress-according to DSM criteria using STSS-10	STS Mean=37.4 (SD= 11.0) 32.8% met all criteria for STS. Significant differences according to age and gender. No significant difference according to shift patterns, ethnicity, education or use of formal support.

Study	Addresses review questions	Location	Sample	Concept	Findings
Hooper, Craig, Janvrin, Wetsel & Reimels (2010)	1) Prevalence ☑ 2) Explanations ☑ 3) Evaluated strategies ☒	USA, South East, Acute health care system	109 nurses Emergency department, oncology, nephrology, intensive care unit M=9 F=100 Mean age= not provided Response rate=82%	Compassion fatigue using ProQoL R-IV	Means not provided Using cut-off points High compassion satisfaction n=30 (27.5 %) High burnout n=29 (26.6 %) High compassion fatigue n=31 (28.4%) Significant difference according to gender. No differences according to shift patterns, ethnicity, years in nursing, ward or education.
Komachi, et al (2012)	1) Prevalence ☑ 2) Explanations ☑ 3) Evaluated strategies ☒	Japan, suburban Tokyo, general teaching hospital	176 nurses Intensive care unit, surgery, internal medicine, out-patient department M=32 F=144 Mean age= 30.12 (8.02) Response rate=52.1%	STS using IES-R-J	IES scores total mean=6.9 (8.7) Re-experience= 2.6 (3.7) Avoidance= 2.5 (3.7) Arousal= 1.7 (2.7) Trauma severity, neuroticism and feelings of self-reproach significantly predicted STS, explaining 29% of the variance
Mealer et al (2007)	1) Prevalence ☑ 2) Explanations ☑ 3) Evaluated strategies ☒	USA, Atlanta Georgia, 3 Emory University affiliated hospitals and the wider Atlanta metropolitan area	ICU 1st cohort=230 ICU 2nd cohort=140 General medical or surgical=121 General= 92% female 1CU 1st = 84 % female ICU 2nd = 94% female Mean age General= 37.7 (10.4) 1CU 1st = 37.5 (9.1) ICU 2nd= 44.1 (9.4) Response rate General= 38% 1st ICU= 47% 2nd ICU=33.7%	PTSD using Posttraumatic Stress Syndrome 10 Questions Inventory, based upon DSM.	Means not provided 24% of the 1st ICU nurses were positive for symptoms of PTSD, compared with 14% of general nurses. This difference is significant. Significant differences in PTSD scores according to shift patterns, age, marital status and work role. No significant differences according to years in nursing. No significant differences between ICU and general nurses on HADS.

Study	Addresses review questions	Location	Sample	Concept	Findings
Mealer, Jones, Newman, McFann, Rothbaum & Moss (2012)	1) Prevalence ☑ 2) Explanations ☑ 3) Evaluated strategies ☒	USA, national survey representing 50 states	744 ICU nurses M=70 F=674 Mean age=43.6 (11) Response rate=35%	PTSD using Posttraumatic Diagnostic Scale (PDS)	21% (156) met diagnostic criteria for PTSD Reslience significantly associated with lower incidence of meeting PTSD criteria
Michael & Jenkins (2001b)	1) Prevalence ☑ 2) Explanations ☒ 3) Evaluated strategies ☒	30 hospitals throughout the state of Western Australia	233 nurses Perioperative M= 8 F=225 Mean age not provided Response rate not provided	PTSD using Impact of Event Scale	IES scores Intrusion mean = 16.88 (SD=8.87) Avoidance = 14.45 (9.5) % at risk not reported
Sawatzky & Enns (2012)	1) Prevalence ☒ 2) Explanations ☑ 3) Evaluated strategies ☒	12 Emergency Departments across Manitoba, Canada	261 emergency department nurses M= 29 F=230 Mean age=41.1 (11.2) Response rate= 35%	Compassion fatigue using ProQol	Job engagement and staffing resources significantly predicted compassion fatigue Means and % at risk not reported
Quinal, Harford & Rutledge (2009)	1) Prevalence ☑ 2) Explanations ☑ 3) Evaluated strategies ☒	USA, California, Community Magnet hospital	42 nurses, oncology M=4 F=39 Mean age=36.6 (9.9) Response rate=66%	Secondary Traumatic Stress-according to DSM criteria using STSS-17	STS mean=33.9 (SD= 9.9) 16% met all criteria for STS Significant difference for ethnicity. No significant differences according to shift patterns, experiences or age.
Takahashi, Chida, Nakamura, Akasha, Yagi, Koeda, Takausari, Otsuka& Sakai (2011)	1) Prevalence ☑ 2) Explanations ☒ 3) Evaluated strategies ☒	Japan 2 general hospitals, 6 psychiatric hospitals	531 nurses Psychiatry M=153 F=332 Mean rage not provided Response rate=94.5%	PTSD using Impact of Event Scale-Revised (IES-R)	Means not provided IES-R high risk n=40 (13.7%) 292 nurses had been exposed to patient suicide

Study	Addresses review questions	Location	Sample	Concept	Findings
Tatano & Beck (2012)	1) Prevalence ☑ 2) Explanations ☑ 3) Evaluated strategies ☒	USA, national survey	464 obstetric and neonatal nurses M= 5 F= 456 Mean age= 46.7 (11.04) Response rate= 15%	Secondary traumatic stress according to DSM criteria assessed by STSS	Demographic variables not significantly related to STSS scores Little or no STS N=167 (36.9%) Mild n=126 (27.8%) Moderate n=54 (11.9%) High n=44 (9.7%) Severe n=62 (13.7%) 26% (n=120) met diagnostic criteria for PTSD
Von Rueden, Hinderer, McQuilan, Murray, Logan, Kramer, Gilmore & Friedman (2008)	1) Prevalence ☑ 2) Explanations ☑ 3) Evaluated strategies ☒	USA, urban all trauma hospital	128 trauma nurses M=20 F=80 (Missing data n=28) Mean age=37.0 Response rate=49%	Secondary Traumatic Stress- using Penn Inventory, a PTSD symptom measure	STS mean=18.5 (SD=10.24) 9 (7%) scored above 35 16 scored above 30 Significant difference according to use of coping strategies and years in nursing. No significant difference according to shift pattern, age, gender, social support, marital status, ethnicity and patient contact hours
Yoder (2010)	1) Prevalence- ☑ 2) Explanations ☑ 3) Evaluated strategies ☒	USA, Midwest, Magnet community hospital	106 nurses Emergency department, home care, intensive care unit, medical-surgical, oncology, progressive care unit M:F ratio not provided Response rate=60% Mean age not provided	Compassion fatigue using ProQoL	Compassion fatigue mean = 12. 3 (5.6) >17 (15.8%) Compassion satisfaction= 40.3 (4.9) < 33 (8.6%) Burnout=19.2 (5.0) <27 (7.6%) Significant differences according to ward, shift pattern and years in nursing.
Young, Derr, Cicchillo & Bressler (2011)	1) Prevalence- ☑ 2) Explanations ☑ 3) Evaluated strategies ☒	USA, Central Pennsylvania 484-bed academic medical centre	70 heart and vascular nurses ICU=45 Intermediate care (IMC)=25 No demographics reported	Compassion fatigue using ProQoL R-V	ICU : Compassion satisfaction mean = 36.60 Burnout= 24.82 Compassion fatigue=21.88 IMC : Compassion satisfaction=41.84 Burnout=19.48

4.5.2 Participating samples

The majority (11) of studies reviewed reported data collected in the United States, with the remaining studies from other developed nations. Sample size ranged from to 42 to 744 with most studies recruiting convenience samples (11). A wide variety of nursing specialties participated: with intensive care (8), emergency department (6) and general medical-surgical wards (5) the most frequently studied. Multiple-site data was collected by Abendrof and Flannery (2006), reporting data from 22 hospices, Takahashi et al. (2011), 8 psychiatric institutions, Dominguez-Gomez and Rutledge (2000) 3 general community hospitals, Mealer et al. (2012), 50 state USA national survey and Sawatzky and Enns (2012), 12 emergency departments across Manitoba, Canada. However the majority of studies reported data from a single setting.

4.5.3 Mean scores and prevalence

Diverse measures had been used to determine secondary trauma scores, precluding use of meta-analysis (Deeks et al., 2006). The compassion fatigue measure the Professional Quality of Life Scale (ProQoL) was used by used by six articles. The remaining articles employed the Impact of Event Scale (3), Penn Inventory (1), Posttraumatic Stress Syndrome Questions Inventory 10 (1), Posttraumatic Diagnostic Scale (2) and the Secondary Traumatic Stress Scale (3). Mean scores are provided in Table 4.8.

In summary, all studies detected some form of distress, however proportions of participants meeting at risk criteria varied from 0 to 50%, depending on the sample, scale and interpretation. Therefore a consistent majority of nurses did not report significantly elevated distress, measured as compassion fatigue, secondary trauma, PTSD or burnout. This would suggest that significant distress is not an inevitable reaction to patient care. However, it is possible that

the experience or magnitude of secondary trauma symptoms is moderated by individual, or occupational variables. Therefore, potential predictors and explanations are reviewed.

4.5.4 Variables predicting or explaining the experience of secondary trauma

This review revealed that compassion fatigue has been significantly associated with shift pattern variables, years of nurse experience, gender, ward environment and nurse-caring. PTSD has been significantly associated with shift pattern variables, years of nurse experience, resilience, marital status, patient contact variables and perceived social support. In contrast, significant associations for secondary trauma were found for age and gender (Table 4.9).

Table 4.9: Secondary trauma variables investigated by the reviewed studies

Variable tested	Significant associations detected		
	Compassion fatigue measures	PTSD measures	Secondary trauma measures
Age	☒ Abendrof & Flannery (2006)	☒ Czaja et al (2012) ☒ Von Rueden et al (2008)	☒ Quinal et al 2009) ☑ Dominguez-Gomez & Rutledge (2009) ☒ Tatano Beck & Gable (2012)
Coping	_____	☑ Von Rueden et al (2008)	☒ Dominguez-Gomez & Rutledge (2009)
Education	☒ Hooper et al (2010)	☒ Von Rueden et al (2008)	☒ Dominguez-Gomez & Rutledge (2009) ☒ Tatano Beck & Gable (2012)
Engagement	☑ Sawatzky & Enns (2012)	_____	_____
Ethnicity	☒ Abendrof & Flannery (2006) ☒ Hooper et al (2010)	☒ Czaja et al (2012) ☒ Von Rueden et al (2008)	☒ Dominguez-Gomez & Rutledge (2009) ☑ Quinal et al 2009) ☒ Tatano Beck & Gable (2012)
Experience	☒ Hooper et al (2010) ☑ Yoder (2010)	☒ Mealer et al (2007) ☒ Von Rueden et al (2008)	☒ Dominguez-Gomez & Rutledge (2009) ☒ Quinal et al 2009) ☒ Tatano Beck & Gable (2012)
Exposure to trauma	_____	☑ Komachi et al (2012) ☑ Takahashi, Chida, Nakamura, Akasha, Yagi, Koeda, Takausari, Otsuka& Sakai (2011)	_____
Family	☒ Abendrof & Flannery (2006)	☑ Mealer et al (2007)	_____
Gender	☑ Hooper, Craig, Janvrin, Wetsel & Reimels (2010)	☒ Von Rueden et al (2008)	☑ Dominguez-Gomez & Rutledge (2009) ☒ Tatano Beck & Gable (2012)
Nurse-caring	☑ Burtson & Stichler (2010)	_____	_____

Variable tested	Significant associations detected		
	Compassion fatigue measures	PTSD measures	Secondary trauma measures
Patient contact	_____	☑ Mealer et al(2007) ☒ Von Rueden et al (2008)	_____
Shift pattern	☒ Abendrof & Flannery (2006) ☒ Hooper, Craig, Janvrin, Wetsel & Reimels (2010) ☑ Yoder (2010)	☑ Mealer et al (2007) ☒ Von Rueden, Hinderer, McQuilan, Murray, Logan, Kramer, Gilmore & Friedman (2008)	☒ Dominguez-Gomez & Rutledge (2009) ☒ Quinal, Harford & Rutledge (2009)
Social support	_____	☒ Komachi et al (2012) ☒ Von Rueden, et al (2008)	_____
Staffing/resources	☑ Sawatzky & Enns (2012)	_____	_____
Resilience	_____	☑ Mealer et al (2012)	_____
Ward	☒ Hooper et al (2010) ☑ Yoder (2010) ☑ Young, Derr, Cicchillo & Bressler (2011)	☒ Czaja et al (2012)	_____

4.5.4.1 Variables associated with compassion fatigue

Compassion fatigue was higher in females (Hooper et al., 2010), nurses working eight-hour shifts compared with twelve-hour shifts (Yoder, 2010), and higher in ICU nurses compared, with the Emergency Department (Yoder, 2010). Perceptions of better staffing, available resources and job engagement predicted lower compassion fatigue (Sawatzky and Enns, 2012). Nurses exclusively working day shifts also demonstrated lower compassion fatigue (Sawatzky and Enns, 2012).

Compassion satisfaction Compassion fatigue was assessed using the Professional Quality of Life Scale (ProQoL), a measure which also assesses compassion satisfaction, a positive reaction to the caring role. Young et al. (2011)

revealed that Intensive Care Unit (ICU) nurses showed lower compassion satisfaction than nurses working in the Intermediate Care Unit. Comparisons were conducted between nurses with less than ten years' experience and their colleagues, compassion satisfaction was significantly higher in less experienced nurses (Yoder, 2010). Burtson and Stichler (2010) found a positive correlation between compassion satisfaction and scores on the Caring Behaviours Inventory – CBI-24 – (Wu et al., 2006).

4.5.4.2 Variables associated with PTSD

Mealer et al. (2007) noted nurses diagnosed with PTSD were significantly more likely to be working night-shift, and worked more shifts per week. It has been reported (von Rueden et al., 2008) that nurses who exceeded Penn Inventory threshold scores for PTSD had significantly fewer years working in trauma, and fewer years overall as a nurse. Takahashi et al. (2011) noted higher PTSD scores using the Impact of Event Scale-Revised (IES-R) in nurses exposed to suicide. Komachi et al. (2012) used multiple regression to examine the impact of exposure to trauma and trauma severity was found to significantly predict higher IES scores.

No differences for childcare and household income responsibilities were detected between nurses reporting PTSD symptoms, and colleagues who did not report such symptoms. However, nurses in the PTSD group were significantly more likely to be unmarried (Mealer et al., 2007). Additionally, von Rueden et al. (2008) observed that nurses belonging to the PTSD group were significantly less likely to use hobbies or support offered by friends and family. They were however, more likely to use medicinal stress relief strategies. In addition, they perceived fewer available support systems and weighted their existing support as weaker than colleagues not meeting the PTSD diagnostic threshold (von

Rueden et al., 2008). A significant difference for work-role was detected, with nurses in the PTSD group less likely to be the charge nurse (Mealer et al., 2007). Mealer et al. (2012) focused on the trait of resilience; a characteristic enabling individuals to perform under adverse conditions. Nurses categorised as resilient, according to mean scores on a standardised test (Connor-Davidson Resilience Scale, CD-RISC; Connor and Davidson (2003)) were also less likely to meet criteria for PTSD according to the PDS. High resilience continued to be significantly associated with not reaching PTSD criteria, after controlling for other variables including age, type of ICU, primary shift, reason for entering the nursing profession and gender (Mealer et al., 2012).

4.5.4.3 Variables associated with STS

A significant positive correlation was observed for age, with older emergency department nurses scoring more highly for secondary trauma (Dominguez-Gomez and Rutledge, 2000). Quinal et al. (2009) found that STS was reported with greater frequency in non-White and non-Hispanic staff. Females were observed to score significantly higher for secondary trauma symptoms than their male colleagues (Dominguez-Gomez and Rutledge, 2000). Quinal et al. (2009) did not include a ward comparison, but they did compare their findings with data gathered by Dominguez-Gomez and Rutledge (2000). No statistical comparisons were conducted, however the authors observed that prevalence of secondary trauma as determined by the Secondary Traumatic Stress Scale (STSS-17, STSS-10) was twice as great in emergency nurses compared with oncology(Quinal et al., 2009).

4.5.5 Evidence of remedial strategies

4.5.5.1 Evaluated coping and intervention strategies

Although coping and resilience are frequent themes within the secondary trauma literature, few papers report evaluations of intervention or prevention strategies. The search identified four papers evaluating interventions as summarised in Table 4.10, below, however due to pooled data with other healthcare groups they did not meet the inclusion criteria.

Table 4.10: Studies of interventions not meeting review inclusion criteria

Study	Sample	Intervention	Outcome	Comments
Hilliard (2006)	17 palliative care nurses, social workers and chaplains.	Group ,music therapy sessions for staff at a USA hospice	Pre and post intervention scores were compared from the Compassion Fatigue Self-Test. No significant improvement	No control group Data pooled
Meadors & Lamson (2008)	185 paediatric nurses, social workers, nurse practioners and child life specialists,	Educational seminar for staff at a USA children's hospital	Novel compassion fatigue scale reported significant improvements in anxiety after the seminar	No control group No follow-up Compassion fatigue measure requires testing
Wallbank (2010)	30 nurses and doctors	Clinical supervision	Significant improvements were detected comparing IES and ProQoL scores pre and post intervention	Control group used Sustainability requires testing
Wallbank and Hatton (2011)	22 school nurses and health visitors	Clinical supervision	Significant improvements in IES scores and burnout and compassion satisfaction according to the ProQoL,	No control group Sustainability requires testing Impact on compassion fatigue scores not reported

Three of these four studies provide preliminary evidence of interventions which may reduce secondary trauma symptoms. Further testing is required to determine their long-term efficacy and suitability for samples of nurses working within hospital settings. In addition, it is vital that intervention studies employ validated measurement tools to determine any improvement. Ideally, several measures should be employed: a general measure of wellbeing in addition to

more specific secondary trauma tools.

4.6 Evaluation

To enable sound conclusions a review should include only methodologically rigorous papers, (Oxman, 1994) however, very few investigations specifically focus upon secondary trauma in nurses. Of the scarce material available a variety of measurement tools have been employed and papers had various methodological limitations. Accordingly the papers were evaluated in terms of relevance and ability to address the review's aims (Gough, 2007), as summarised in Table 4.11.

Table 4.11: Rigour of the included papers

Study	Design	Verifiable data?	Scale and construct	Random sampling?	Sample eligibility	Patient contact role a requirement?	Power analysis conducted?	Analysis sufficient to determine predictive factors?
Abendrof & Flannery (2006)	Cross-sectional	x	ProQOL-CSF-R-III Compassion fatigue	☑ Randomised sample n=166 Convenience n=50	Patient contact role, RN working in Florida hospice	☑	x	☑ Multiple regression, t-test, Chi Square, Fisher's Exact test
Burtson & Stichler (2010)	Cross-sectional	x	ProQoLR-IV Compassion fatigue	x	All nurses working in 9 medical-surgical units	x	☑ Power analysis determined sample size was sufficient	☑ Hierarchical multiple regression, correlations
Czaja, Moss & Mealer (2012)	Cross-sectional	x	Posttraumatic Stress Diagnostic Scale PTSD	x	All nurses working with managers who agreed to participate	x	x	x Chi Square T-tests
Dominguez-Gomez & Rutledge (2009)	Cross-sectional	x	STSS-10 Secondary trauma	x	6 months experience in ER, actively employed	x	x	x Correlations T-test with Bonferroni correction
Hooper et al (2010)	Cross-sectional	x	ProQoL R-IV Compassion fatigue	x	Full and parts time RNs, minimum 8 hours per week, more than a year's experience	x	x	x Chi Square
Komachi et al (2012)	Cross-sectional	x	Impact of Event Scale- Revised PTSD	x	All nurses working at a general teaching hospital	x	x	☑ Multiple regression
Mealer et al (2007)	Cross-sectional	☑ Self-report and diagnostic interviews with a sub-sample	Posttraumatic Stress Syndrome Questions Inventory-10 PTSD	x	American Association of Critical Care nurses within 100 miles of Atlanta or working within the 3 sample hospitals	x	x	☑ Multiple regression, t-test, Chi Square
Mealer et al (2012)	Cross-sectional	x	Posttraumatic Stress Diagnostic Scale PTSD	☑	Members of American Association of Critical Care Nurses	x	x	☑ Multiple regression, ANOVA, t-test, Chi Square, Fisher's Exact test

Study	Design	Verifiable data	Scale and construct	Random sampling	Sample eligibility	Patient contact role a requirement?	Power analysis conducted?	Analysis sufficient to determine predictive factors?
Michael & Jenkins (2001b)	Cross-sectional	x	Impact of Event Scale PTSD	x	All nurses	x	x	x T-tests
Quinal et al (2009)	Cross-sectional	x	STSS-17 Secondary trauma	x	All staff members of a 24-bed inpatient unit, patient care/nursing role not a requirement	x	x	x Chi Square
Von Rueden et al (2008)	Cross-sectional	x	Penn Inventory PTSD	x	Direct care role	☑	x	x Chi Sqaure, t-test
Sawatzky & Enns (2012)	Cross-sectional	x	ProQoL R-V Compassion fatigue	x	All emergency nurses not in managerial role or employed on casual basis	☑	☑	☑ ANOVA, bivariate correlations, Regression models
Tatano Beck & Gable (2012)	Cross-sectional	x	STSS- secondary trauma	☑ Random sample	Members of Association of Women's Health Obstetric and Neonatal Nurses	x	x	Details not reported
Takahashi et al (2011)	Cross-sectional	x	Impact of Event Scale-Revised PTSD	x	All nurses	x	x	x Chi Square
Yoder (2010)	Cross-sectional	x	ProQoL R-IV Compassion fatigue	x	All registered nurses	x	x	x ANOVA
Young et al (2011)	Cross-sectional	x	ProQoL R-V Compassion fatigue	x	Registered nurses working in Heart and Vascular ICU or Heart and Vascular Intermediate Care Unit, 20 years or over, providing direct patient care	☑	x	Details not reported

4.6.1 Sampling

Very few studies reported the rationale for their sample characteristics (6) and only four specified nurses in a direct patient contact role (Table 4.11). With few conducting *a priori* power calculations there is a concern that numbers may be inadequate for detecting existing relationships and differences. Therefore, it is important that future research recruits sufficient numbers of participants in order to increase confidence in the findings.

The majority of studies employed opportunity samples, and without randomisation there is a risk that healthy workers, more satisfied in their roles are more likely to respond, resulting in a biased sample with inflated wellbeing scores (de Boer et al., 2011).

Given the global nursing shortage the lack of information from contexts beyond the US is of concern (Buchanan, 2002). Furthermore, as a result of differences in occupational culture and healthcare delivery, findings gathered in one country may not be applicable to be to another (Takahashi et al., 2011). It should be noted that secondary trauma in nurses has been studied in other regions, including China, Singapore, Israel and the Occupied Territories, Iraq and Vietnam, yet dual-exposure concerns prevented the inclusion of data collected during periods of epidemic, terrorist attack or combat.

4.6.2 Data collection

Self-administered surveys are reliant upon the participant's ability to appraise their own experiences accurately and report honestly. Therefore self-report data can be strengthened through triangulation with other methods, such as interview, peer observations and more objective measures of functioning such as attendance statistics. However, only one study verified their conclusions through diagnostic interview (Mealer et al., 2007).

4.6.3 Tools

Reflecting the multiple terms for secondary trauma, data was collected using various scales and concepts. In the absence of a gold-standard universal tool, caution is advised, as it is difficult to determine if these reported experiences belong to the same or related experience. Najjar et al. (2009) argue that current understanding does not enable compassion fatigue, burnout or other traumatic stress syndromes to be distinguished. It is argued that advances in mental health research are required to produce a tool which can determine these distinctions (Najjar et al., 2009).

Measures such as the Impact of Events Scale (IES), Secondary Traumatic Stress Scale (STSS) have focussed on the prevalence of PTSD symptoms, rather than the assessing for the complete DSM-IV-TR criteria. Without this data it is unclear if scales are measuring temporary distress which may resolve without lasting detriment, or a more serious problem requiring intervention or policy changes (Elswood et al., 2011). It is important therefore that future research measures the consequences both at an individual and an organisational level.

Overall the review revealed evidence for distress, (measured as compassion fatigue, PTSD or secondary traumatic stress), with prevalence rates of up to 50%. It could be argued that a significant proportion of the tested staff are suffering from secondary trauma, however from these findings it is not possible to determine the impact on nurse functioning. It would be useful if future studies all included measures of functioning or general health, in addition to measures of performance and health such as sickness rates. For example global measures, such as the and Hospital Anxiety Depression Scale, as used by Mealer et al. (2007), and Hopkins Symptoms Checklist-21, employed by Michael and Jenkins (2001) help determine the impact of secondary trauma symptoms.

4.6.4 Cross-sectional data

Data was collected from current nurses at one point in time, preventing comparisons with nurses leaving the profession and limiting causal inferences. Longitudinal studies would enable the development of secondary trauma to be studied over the course of a career, providing useful data on the impact of variables such as age, experience and coping strategies (Mealer et al., 2009). Furthermore, cross-sectional designs should be interpreted with caution as it is not clear if results have been affected by lifetime exposure to trauma which predisposes individuals to PTSD (Mealer et al., 2009; Robertson and Perry, 2010).

4.6.5 Statistical analyses

Studies employed various statistical tests consonant with their differing aims and designs. Only six used tests capable of revealing the strength and direction of relationships between variables, and also the degree of secondary trauma explained by participant and workplace variables (Table 4.11). Such studies are useful for adding to theoretical understanding about the origins of secondary trauma, yet of these only Burtson and Stichler (2010); Komachi et al. (2012); Sawatzky and Enns (2012) provide predictive models explaining variance. With decisions guiding choice analyses missing, it is unclear if other studies were unable to use more advanced statistical tests, such as multiple regression due to the characteristics of their data. Further research is called for using multiple regression and structural equation modelling to explore predictive relationships between variables and outcomes.

4.7 Discussion

4.7.1 Working environment

Differences were observed in secondary trauma scores between nurses working in different wards. The emergency department exposes staff to different forms of secondary trauma, such as immediate care of gunshot victims, perhaps accounting for higher scores than oncology settings (Quinal et al., 2009).

Acute care contexts such as the ICU may have a more negative impact on nurses accounting for elevated scores. Differences in patient condition, with the ICU witnessing more severe illness, more end of life care and a higher frequency of deaths have been suggested as explanations (Young et al., 2011). Furthermore, in contrast to other wards, nurses working in the ICU are less likely to see positive progress such as patients recovering sufficiently to move to a less acute setting and eventually being discharged (Young et al., 2011). Additionally, the ICU is characterised by technology-based care of highly vulnerable patients (Trummers et al., 2002). Therefore reciprocity is reduced within this environment, with patients unconscious or otherwise unable to communicate with nurses. It could be argued that differences in expectations or hardiness may guide the choice of workplace, and this in turn may explain these observed differences between wards. Trummers et al. (2002) found that ICU nurses experienced more intense work-place demands yet demonstrated lower burnout that other wards; suggesting greater tolerance for stress.

4.7.2 Shift-pattern

Research investigating impact of shift work on general health and work performance is on-going and informs occupational safety laws across much of the world. Potentially shift patterns can disrupt circadian rhythms leading to fa-

tigue, ill health and poor concentration (Poissonnet and Veron, 2000; Niu et al., 2011). Evidence for the association between shift pattern and secondary trauma is mixed; five studies did not reveal significant findings; Mealer et al. (2007) found PTSD diagnosis associated with night-shift and working a greater number of shifts per week and Yoder (2010) observed compassion fatigue was higher in nurses working shorter shifts (eight versus 12 hours). The differing designs of these two studies limits interpretation and it should be emphasised that high scores on the ProQoL are not equivalent to PTSD diagnosis. It is therefore unclear if shift work is associated with overall poorer health with secondary trauma measures capturing aspects of this.

4.7.3 Staff demographics

Demographic factors associated with secondary trauma included gender (Dominguez-Gomez and Rutledge, 2000; Hooper et al., 2010) and ethnicity (Quinal et al., 2009). However, due to typically homogenous samples and small numbers of participating male nurses it is possible that any effects for gender and ethnicity will be difficult to detect. As research into secondary trauma is developing there are limited articles examining these differences in nurses. However, consultation of the wider literature would suggest that following exposure to trauma women are typically at an increased risk of developing PTSD (Stein et al., 2000; Tolin and Foa, 2006). Frans et al. (2005) assessed lifetime prevalence of traumatic experiences in a random sample of nearly 2000 men and women. The results revealed that although men experienced a higher number of traumatic incidents, following exposure women were significantly more distressed and consequently demonstrated a greater risk of developing PTSD. The authors suggested that women had a greater vulnerability to stress in general, predisposing them to PTSD in the event of exposure to trauma (Frans et al., 2005). Additionally,

some researchers argue that social context is more important for explaining vulnerability to PTSD than demographics (Brewin et al., 2000; Ozer et al., 2008). Therefore higher prevalence in women could be accounted for by less effective mechanisms of social support (Ozer et al., 2008).

4.7.4 Age and experience

Age was only found to have a significant association with secondary trauma in one study. This finding contradicts with the phenomena known as survivor effects, whereby staff experiencing distress choose to leave the profession, resulting in older staff cohorts more likely to comprise of resilient staff (de Boer et al., 2011).

Yet results from Dominguez-Gomez and Rutledge (2000) suggest that age could be positively associated with secondary trauma due to repeated exposure over the course of the nurses' career. However, age is not necessarily indicative of workplace exposure or work experience, as nurses may qualify in later life and therefore be older than their more experienced colleagues. Moreover, in the same study, years in nursing were not significantly correlated with STSS (Dominguez-Gomez and Rutledge, 2000). However, Mealer et al. (2012) tested for difference between ICU nurses categorised as highly resilient and their less resilient colleagues. High resilience was significantly associated with being older yet having fewer years working within the ICU, suggesting that resilience is not automatically gained with greater work experience or exposure to workplace trauma. Accordingly if age is a predictor it may belong to a complicated interaction.

4.7.5 Exposure

It is surprising that only two studies investigated the impact of trauma, as exposure is a requirement for PTSD diagnosis. Specifically, Criterion A1 states that an individual experienced, witnessed or was confronted with a life threatening event, serious injury or threat to the physical integrity of to the self or others; as a result the person respond with intense far, helplessness or horror (American Psychiatric Association, 2000). Accordingly exposure to trauma is central to theoretical explanations for STS and compassion fatigue (Figley, 1995a; Stamm, 2010).

Komachi et al. (2012) determined that trauma severity predicted ST as measured by the IES-R as part of a multiple regression model. However, the unique contribution remains unknown, therefore it is unclear if other factors have a mediating effect. Takahashi et al. (2011) determined that patient suicide was associated with secondary trauma (IES-R), however without baseline measures, or information from non-exposed colleagues, it is difficult to determine if exposure to trauma was responsible for elevated scores. Therefore, to strengthen construct validity it is vital that secondary trauma research explicitly assesses the impact of exposure to another's trauma.

4.8 Conclusions

This systematic literature review aimed to determine current understanding of factors which can explain or predict secondary trauma and details of how this knowledge had been put into practice through evaluated interventions. The sixteen studies determined that there is evidence for distress in nurses measured as compassion fatigue, PTSD or secondary traumatic stress (STS). It was important to scrutinise potential predictive variables as prevalence rates ranged

between 0 and 50%, suggesting that secondary trauma is not an inevitable consequence of nursing. Further examination of these variables may help guide the allocation of resources to assist more vulnerable members of staff. In addition, understanding nurse resilience could help tailor training and occupational policy to reduce overall vulnerability.

In summary seven variables (gender, experience, age, ethnicity, ward setting and education) have been examined as potential predictors for compassion fatigue, STS and PTSD scores. Only education was not significantly associated in some way with one of the secondary trauma measures, however, within this area methodological weaknesses have been blamed for inconsistent findings (Sabin-Farrell and Turpin, 2003). Therefore with studies not employing the same measures to test all variables, significant associations may have been over-looked.

The review determined that some variables warrant further attention. Variables not tested by all tools include resilience, exposure to trauma, ward setting, family variables, coping strategies, patient contact variables, nurse caring or empathy and social support. It is important that these variables receive further research attention as they form part of the theoretical understanding of secondary trauma (Figley, 1995b). Moreover, it is surprising that more studies have not investigated the impact of traumatic events or triangulated data using the PTSD Diagnostic Criterion A1 checklist, hereby improving the validity of their study (American Psychiatric Association, 2000).

It is acknowledged that creating, testing and maintaining an intervention within a workplace is a formidable task requiring extensive resources and continuing interest and support from both management and employees (Maslach et al., 1996). However findings from Japan and the USA suggest that strategies specific to secondary trauma do exist, yet they are not available within all workplaces (Aycock and Boyle, 2009; Takahashi et al., 2011) and furthermore, as noted by this

literature review, there appears to be a global dearth of evaluated interventions specifically targeting secondary trauma in nurses. Only four studies reported explicitly on strategies exclusively for nurses. This emphasises the need to further investigate and evaluate coping strategies originating from both theoretical understanding and nurses' suggestions. Within the wider field of stress management intervention there is great wealth of knowledge about sources of nurse occupational stress, however, reviews of the literature note limited application of this knowledge (Edwards and Bunard, 2003). Accordingly researchers argue for greater translation of theory into practice with the construction of tailored interventions and the evaluation of available resources (Edwards and Bunard, 2003).

4.8.1 Clinical implications

Yet it is important to acknowledge that we do not fully understand all the factors involved in development of secondary trauma. Moreover it would be inadvisable to form a model of general vulnerability from heterogeneous studies with differing sample characteristics, as revealed by this literature review (Brewin et al., 2000). Understanding risk and resilience can help guide resource provision, therefore this chapter finishes with some tentative clinical implications. The literature revealed some support for clinical supervision (Wallbank, 2010; Wallbank and Hatton, 2011), however, randomised-control trials are vital to establish long-term efficacy. Despite its apparent effectiveness, it is unclear how clinical supervision can reduce secondary trauma symptoms. Clinical supervision is an existing strategy for staff support within nursing and the NHS, whereby staff discuss with a senior colleague their training needs and how the role impacts on their personal and professional functioning. It has been described as source of support and education and therefore the peer and organisa-

tional support may be responsible for reduced symptoms (Brewin et al., 2000; Butterworth et al., 2008; Ozer et al., 2008).

However as sessions are often voluntary and not allocated within shift-time, staff may be reluctant to participate (White et al., 2004; Mackereth et al., 2005; Butterworth et al., 2008). It is therefore argued that in order to be perceived as a routine part of the role, supervision needs to be a mandatory and regular feature within nurse training. Therefore trainees making the transition to registered nurse status should be more likely to participate and benefit. The impact of organisational support on secondary trauma was explored in the quantitative survey (see Chapter 7).

Chapter 5

Selecting the Methodology

5.1 Introduction

This project focused upon nurses' personal and professional responses to older adult care. Two systematic literature reviews were thus used to guide the choice of terms, tools and concepts for investigation. The first review adopted a more scoping approach to gauge nurse responses to patient contact. Key concepts within the literature were established, such as compassion fatigue and secondary trauma, as described in greater details in Chapter 3. These key concepts were then applied within a more refined literature search. This revealed the absence of a gold-standard concept or investigative method, as well as continued debate over the appropriateness of existing tools to best explore experiences within the chosen sample of nursing staff. Accordingly, methodology needed to be able to successfully explore the experience, guide the choice of measurement tools and then use these tools to assess the prevalence and enable predictive relationships to be modelled. This chapter provides an account of how the methods were selected.

5.2 Choice of mixed methodology

To select methodology appropriate for addressing these research aims, qualitative and quantative methods were evaluated for fitness for purpose using material from Barker et al. (2002) and McEvoy and Richards (2006). See Table 5.1. In summary, quantitative designs apply strategies from the natural sciences to identify and quantify variables in order to form laws explaining behaviours. In contrast, qualitative methods enable more complex aspect of experience to be investigated without overly simplifying experiences to conform with a numerical scale (Barker et al., 2002).

Summarising these distinctions helped to clarify that the differing aims of the research, exploration and measurement would be best met with the application of both qualitative and quantitative methods and as a result this project employed a mixed-methods design. To identify and explain important concepts from the perspective of the participant (i.e. gain phenomenological appreciation), this investigation began with exploratory qualitative interviews, the results from which informed the design of a quantitative survey and guided hypothesis generation.

5.2.1 Order of the data collection

The sequence of the qualitative and quantitative data collection phases was also considered by referring to existing literature. Numerous quantitative data collection strategies have been used to measure various aspects of nurses' wellbeing related to patient care and contact. More specifically the systematic review of the compassion fatigue and secondary trauma literature (Chapter 4) indicated that this research area has been complicated with a wealth of terms and tools. Moreover, there is some doubt over their validity and scientific rigour (Sabin-

Table 5.1: A summary of distinctions between qualitative and quantitative methods

	Qualitative	Quantitative
Paradigm	Interpretative	Positivism
Epistemology	Understanding constructed from social processes and interpretations	Rules and patterns established using empirical data and logic
Ontology	Indefinite, intangible reality	Definite, material reality
Goals	Use language to understand individuals' perceptions and experiences	Test hypotheses Make empirical observations Form laws to explain behaviours
Sampling	Theoretical or purposive Typically small numbers	Representative Aiming to reduced bias Enable generalizations about the population
Data collection options	Focus groups Semi or unstructured interviews Narrative analysis Observation	Experiments Randomized controlled trials Diagnostic interview Questionnaire
Role of researcher	Active participant	Detached observer

Farrell and Turpin, 2003; Sabo, 2006) and therefore attempting to quantify and measure reactions termed compassion fatigue and secondary trauma without fully understanding these experiences may be difficult and futile. As a result quantitative data collection would be ill-advised without a sound theoretical foundation. In addition, existing concepts within the literature may not be relevant for this sample, as research exploring and measuring the experiences of older adult nurses is scarce. Therefore to justify quantitative data collection it was vital to meet several prerequisites: establishing preliminary evidence of distress in nurses working with older adults and describing this distress sufficiently to choose appropriate measurement tools. As a result this mixed-methods study began with the qualitative interviews.

5.2.2 Benefits of mixed-method designs

Mixed methodology has been employed within the study of compassion fatigue in health professionals (Killian, 2008), however the systematic review of the literature (Chapter 4) did not reveal any nurse-specific studies which could be used for guidance. Mixed designs do however have several advantages and have been advocated for use in healthcare research as they enable corroboration between data collected by differing strategies (McEvoy and Richards, 2006). Therefore mixed methods can control for biases resulting from a single method and data from another source can be included to enhance credibility. Mixed methods are also complementary, enabling a more complete picture of the topic under investigation. In the case of this project, mixed methods potentially enabled more to be revealed about nurses' experiences of older adult care than was possible by questionnaire or interview alone.

However mixed-designs are not without problems and combining incompatible ontological and epistemological frameworks can lead to confusion and limit the interpretation and usefulness of the research (McEvoy and Richards, 2006). It was thus important that the method was consistent with the assumptions about knowledge and beliefs (Sullivan, 2010).

5.2.3 Choosing the epistemology of critical realism

This project aimed to use participants' responses to contribute to knowledge of how older adult care impacts on nurses and the emotional consequences of this role. Accordingly it was important that the selected methodology considered individuals as active not passive observers of their own lives, and assumed that people engage in self-reflection which they are able to articulate (Brocki and Wearden, 2006). These reflections were not assumed to be objective accounts, rather to be shaped by the individuals' perceptions, values and past experiences;

therefore this project adopts an orientation of critical realism. This approach argues that external objects and events do exist, however our interpretation is not necessarily accurate, accordingly we have an imperfect and partial impression of reality yet some features exist independently of human conceptualisation (Healy and Perry, 2000; Fade, 2004; Robinson and Smith, 2010).

Critical realism can be perceived as an alternative to the interpretative / positivist dichotomy (summarised in Table 5.1). It is a balance between these two main approaches, which aims to develop deeper levels of explanation and understanding and therefore it is suitable for mixed methods studies employing both qualitative and quantitative data collection (McEvoy and Richards, 2006). In this study it is assumed that participants' experiences are subjective, shaped by their perceptions, motivations and social constructs and as a result even if they are responding truthfully this truth will be partial. Therefore, critical realism is an appropriate epistemology for IPA which is concerned with participants' interpretations of their experiences, rather than objective verifiable evidence and subjectivity is acknowledged.

We now move from the more general assumptions about knowledge to the approach chosen to guide the qualitative data collection and analysis.

5.2.4 Selecting a qualitative phenomenological approach

The phenomenological philosopher Husserl advocated reflecting upon conscious activities in order to better understand these experiences (Smith et al., 2009) arguing that we are unaware of meanings and processes behind actions, yet these can be revealed through reflection (Smith et al., 2009). Phenomenology is thus useful for this study which is not seeking to create a theory or impose a model, rather it seeks to explore experiences (Smith et al., 2009).

Phenomenology embodies epistemological pluralism, permitting a number of

perspectives to be seen as equally valid, therefore taking into account differing roles, agendas and experiences of the participants (Barker et al., 2002; Smith and Osborn, 2008). These multiple interpretations are viewed as interesting and important aspects of the research rather than variables to be controlled (Barker et al., 2002). This project involved interviewing nursing staff working within the same care contexts, working with the same patients and interacting with the same doctors and relatives, and therefore this approach allowed for the different interpretations of a shared environment and enabled these interpretations to be compared. Accordingly, a homogenous sample was selected with participants all female and registered senior nurses employed within two wards within the same Trust, for further details see Chapter 6.

Guidance from Barker et al. (2002) provided potential phenomenological approaches which were considered for relevance, as detailed in Table 5.2.

Methods were rejected if they were unsuitable for the chosen sample, did not address selected research questions or appeared unfeasible due to practical constraints. For example, grounded theory typically employs saturation sampling, whereby participants are recruited until new data no longer reveals interesting contributions to the developing theory (Chamaz, 2006). Consequently ideally the researcher transcribes and analyses existing findings whilst simultaneously seeking further recruits (Strauss and Corbin, 1998) a potentially lengthy process most effective with easy access to many participants. Therefore given the time constraints and limited willing participants, grounded theory was not selected. In addition this method aims to use the data to form new theories, grounded in social processes which would not meet the aims of this exploratory phase (Chamaz, 2006).

Observation methods were rejected due to the ethical and safety concerns of collecting data within hospital wards, such as respect for patient confidentiality

Table 5.2: Examples of phenomenological studies

Approach	Examples	Suitability
Client-centred research	Rigby, Ryan,From, Walczak and Jutai (2006) gained understanding of suitable seating from children in paediatric care	Current study selected participants for their role as nurses, did not aim to explore needs of individuals in receipt of medical or psychological care or occupational interventions
Consensual Qualitative Research (CQR)	Smith (2006) explored challenges for male nurses as non-traditional applicants	CQR is best suited to a complex psychosocial phenomena rather than explorative work (McCarthy Veach, Bartels & LeRoy, 2001)
Ethnography	Kayser-Jones (2002) conducted an ethnographic study to explore processes influencing the experience of dying in nursing homes	Ethnography typically explores cultural phenomena and requires emersion within the chosen culture for long periods of time Does not meet aims of the current study and incompatible with the sample and time frame
Empirical phenomenology (Duquesne School)	Bell and Millward (1999) interviewed women about their use of emergency contraception	Meets aims of current study and appropriate for the sample
Field research and participant observation	Hewison (1995) used observation to explore power dynamics in nurses-patient interactions	Ethical constraints Observation insufficient to explore this phenomena (Killian, 2008)
Grounded theory	Olofsson, Bengtsson and Brink (2003) conducted interviews investigating nurses' occupational stress and emotions	Concerns about time constraints Could not meet current study's explorative aims
Protocol analysis	Greenwood, Sullivan, Spence and McDonald (2000) investigated nurses' reasoning when performing neonatal care	Not appropriate as current study does not aim to explore clinical decision making
Hermeneutic-interpretative research	Evans and Hallet (2007) interviewed nurses about their experiences of working with hospice patients to explore the meaning of comfort in care	Meets aims of current study and appropriate for the sample Few relevant examples in the literature
Biographical/life history research	Clarke, Hanson and Ross (2003) used biographical research to enhance older adult care by improving understanding of the patients' lives	Current study is not specifically focused on experiences over the course of the participants' lifetimes, rather the focus and relevance of experiences is chosen by the participant
Interpretative Phenomenological Analysis (IPA)	Ablett and Jones (2007) explored wellbeing and resilience in hospice nurses	Meets aims of current study and appropriate for the sample Employed by many applied psychology and health care studies Guidance, training and protocols available

and safety of the researcher. Furthermore observation is arguably unsuited to assessing experiences beyond surface behaviours (Killian, 2008) and this study was interested in nurses' interpretations of their experiences, information which is best gathered by communicating with the participants.

Three similar phenomenological approaches were revealed: hermeneutic interpretative research, empirical phenomenology and interpretative phenomenological analysis (IPA). Hermeneutic interpretative research was appropriate to the research aims, however given the limited example papers available and the inexperience of the researcher I felt it best to choose a method with many past studies available for guidance and training courses provided. Similarly empirical phenomenology could be suitable as it is a flexible approach which encourages participants to express experiences using their own words (Bell and Millward, 1999) with guidelines available (Giorgi and Knowles, 1979). However IPA was chosen as it has been employed in many health psychology studies and although very similar to empirical phenomenology and hermeneutic interpretative research, the relative popularity of IPA has enabled more training resources and literature to assist the junior researcher.

5.2.4.1 Interpretative Phenomenological Analysis

Interpretative phenomenological analysis (IPA) has been used successfully to explore the experiences of health professionals, including nurses (Smith et al., 1999; Brocki and Wearden, 2006; Ablett and Jones, 2007). This approach has been selected as IPA allows the researcher to explore the participants' perception of events in order to make sense of the meaning attached to the experience and the processes which resulted in the understanding (Brocki and Wearden, 2006). The goal of IPA is not to generate extensive data from many participants and make generalisations, instead, a smaller sample are employed to generate

richer data in order to explore a topic in greater depth (Macintosh, 2007). IPA is not attempting to formulate an objective statement, rather it uses a double hermeneutic in which the researcher is trying to make sense of the participant trying to make sense of their world (Smith and Osborn, 2008). Accordingly, IPA assumes a connection between a person's emotional state, their cognitions and verbalisations. The interview schedule was therefore deliberately flexible allowing the participant to tell their own story using their own words and hereby enabling their attitudes and appraisals relating to their experiences to be revealed.

In summary it can be argued IPA is a suitable approach as this project aims to understand nurses' experiences of older adult care and IPA enables researchers to consider participant's accounts and reactions as valid evidence (Brocki and Wearden, 2006). Details of the procedure and an evaluation are provided in Chapter 6. Now that a framework and method of analysis had been chosen the next step was the selection of a data collection strategy.

5.3 Existing qualitative studies

To inform data collection a review of the existing literature was conducted, revealing qualitative designs used to explore nurses' experiences of patient care, stress, compassion fatigue and secondary trauma. A summary is provided in table 5.3.

Table 5.3: Qualitative studies of nurses' experiences

Study	Aims	Data collection	Epistemological position	Analysis	Findings
Ablett & Jones, (2007) Hospice nurses (n=10) UK	Seeking general experiences of palliative care and specific interpersonal factors	Semi-structured interview	Phenomenology	Interpretative Phenomenological Analysis (IPA)	Nurses experienced satisfaction from listening to and supporting patients, making a difference and "providing a good death". Working with dying patients made some feel more positive and joyful about the opportunities in their own lives. Empathy was seen to guide the nurses' experience of caring for others. It was thought to promote understanding and improved perceived quality of care
Brysiewicz, (2002) A&E nurses (n=7) South Africa	Investigating experiences and conceptualisations of violent death, exploring the impact of these experiences upon the nurses' professional and personal functioning	Two unstructured audio-taped interviews	Phenomenology	Not stated	Participants expressed a need for debriefing from someone who understood following distressing events
Cooper & Barnett (2005) Student nurses (n=38) UK	Exploring anxiety-inducing aspects of caring for dying patients	Focus groups and reflective diaries	Not stated	Collaizzi's method of content analysis	Anxiety inducing aspects: Coping with the physical suffering of patients, severing of the relationship with the patient, the type of death witnessed and detachment. Caring for younger patients, sudden deaths associated with greater anxiety. Deaths occurring outside the perceived "natural progression"

Study	Aims	Data collection	Epistemological position	Analysis	Findings
Dewe (1987) Various hospitals (n=1801) New Zealand	Exploring perceived sources of stress and the nurses' responses to these situations.	Mixed methods. Interviews, written responses and questionnaires. Nurses were asked to think of a time they felt under pressure and describe the origins of this feeling.	Not stated	Not stated	Perceived sources of stress: Nursing the critically ill (performing painful procedures, dealing with life threatening situations and unexpected changes to the patient's condition). Dealing with difficult or helplessly ill patients (fail to improve/ constant pain) elderly, demanding, difficult or uncooperative patients and death Dealing with the patients' pain led to the nurses feeling distressed.
Helps (1997) A&E nurses (n=51) UK	Exploring sources of occupational stress	Semi-structured interview	Not stated	Not stated	The staff suggested that regular stress workshops, debriefing, more clinical supervision and a time-out room be provided Sources of distress included the death of children and infants and bereaved relatives. Sources of greatest occupational satisfaction included positive patient outcomes and interaction

Study	Aims	Data collection	Epistemological position	Analysis	Findings
Jonsson & Segesten, (2003) Nurses and ambulance technicians (n=362) Sweden	Exploring reactions and details of self-described "traumatic events"	Participants provided with a definition of traumatic events Asked to write down and describe their experiences of a traumatic event	Phenomenology	Phenomenological method developed by Adrian van Kaam	Traumatic events were reported by 223 of the 362 participants 6 common elements were identified: Meeting with the unforeseen and meaningless Attention focussing A strong sense of compassion Identification with the victim Difficulty leaving the memories behind Gaining understanding
Macintosh (2007) Surgery nurses (n=16) UK	Exploring how nurses working in surgery cope with daily experiences	Semi-structured interview	Not stated	Thematic content analysis	3 themes emerged, the need for professional boundaries, relationships with patients and the influence of experience. Nurses felt that compassion was vital and that good relationships with patients were beneficial to the care process
Maytum et. al (2004) Paediatric nurses (n=20) USA	Identify reactions and coping strategies for compassion fatigue	Participants provided with a vignette, a realistic work scenario that might induce distress They were provided with descriptions of compassion fatigue and burnout Audio-taped interviews 11 open-ended questions	Not stated	Thematic content analysis	Short-term coping strategies included regular debriefing, maintaining a healthy life style and talking with colleagues following a stressful day. Long-term coping strategies included an awareness for CF and burnout triggers, developing boundaries for patient interaction and rituals for dealing with the emotional aftermath of incidents such as deaths Sources of distress: witnessing painful procedures, and seeing too much death and sadness

Study	Aims	Data collection	Epistemological position	Analysis	Findings
Michael & Jenkins (2001*b*) Perioperative care nurses in various hospitals (n=233) Australia	Establish the impact of work related trauma upon nurse wellbeing	Participants reported traumatic events and their impact.	Not stated	Content analysis	Traumatic events including death of a patient during or following surgical intervention
Perry & Toffner, Merrick & Dalton (2011) Oncology nurses (n=19) Canada	Exploring how oncology nurses describe the experience of compassion fatigue (CF)	Written responses to an online questionnaire Participants were asked to describe a time they had experienced CF	Not stated	Thematic analysis	Causes of CF: Lack of support, lack of knowledge, lack of time to give quality care. Exacerbating factors: Being unable to ease suffering, co-existing problems, excessive emotional attachment. Outcomes: profound fatigue, negative impact on relationships, intention to quit Remedial factors: peer support, work-life balance, connecting with others, acknowledgement, maturity and experience
White et. al, (2004) Palliative care (n=9) Australia	Identify how nurses respond to unrelieved suffering in patients	Semi-structured interview	Not stated	Not stated	The nurses were more comfortable with physical suffering because often there were treatable causes Patients with unrelieved suffering had a major influence upon their work and personal lives
Yoder (2010) Various wards (n=71 of 106 who took part in the quantitative data collection)	Exploring coping strategies and trigger situations for burnout and compassion fatigue	Written responses to a questionnaire	Not stated	Content analysis	Triggers: caring for patients, workload, management decisions, personal issues Coping: spiritual or religious, life outside of work, introspection, attitude modification, rituals, taking action, informal debrief, change personal engagement, change nature of work involvement.

5.3.1 Evaluating qualitative data collection strategies for suitability

Further options existed for collecting the qualitative data. Focus groups have been used to generate discussion and triangulate data gained by other methods (Cooper and Barnett, 2005), however collecting responses from a group of participants was felt less appropriate for an idiographic approach such as IPA. Furthermore, given the potential sensitivity of the topic it was decided that collecting data in a group situation was inappropriate. To collect rich data it was important that data collection allowed respect for confidentiality and helped participants to feel at ease (Memon and Bull, 2000). As a result interviews were conducted face to face and individually. Additionally given constraints on nurses' time logistical difficulties exist in recruiting several staff willing and able to participate at the same time.

Written responses gave participants the freedom to answer questions in private, for example, Yoder (2010) collected written responses to standardised questions. However this method removed opportunity for clarifying questions and the researcher would be unable to explore an interesting topic further. Accordingly, this approach would not fulfil the exploratory aims of the current project. Furthermore, it was important that the data collection method be flexible to adapt to the participants' chosen directions within the discussion which would not be possible with data collection conducted in private away from the researcher.

Diaries were considered to enable longitudinal data to be collected hereby establishing potential variations in experiences over time. Cooper and Barnett (2005) recruited 38 student nurses for a reflective diary study and focus groups, however, participants completed their diaries as a component of their course, it is therefore unclear if volunteers would produce sufficient data. There was also concern that diaries would be too labour intensive to appeal to a working

participant group, potentially impacting on recruitment and completion rates. Given the occupational demands it was felt important that the data collection be the least taxing for the participants as possible. Furthermore, written responses would provide no opportunity for clarification, and methods such as diaries could potentially yield data with insufficient depth for IPA.

An interview based on open-ended questions was also rejected due to concerns about flexibility. Maytum et al. (2004) used set open-ended questions to identify responses to a pre-issued definitions of compassion fatigue and burnout. Accordingly, this more rigid method would not be appropriate for the current study as the researchers are interested in the participants' own descriptions of any distress, rather than imposing definitions from the literature. Furthermore, the current study adopts a more flexible interview schedule, enabling the participant to lead the direction of the discussion in order to gather information on their experiences, rather than assess their agreement with existing concepts (Smith and Osborn, 2008; Johnson et al., 2009).

5.3.2 Evaluating quantitative designs for suitability

Possible data collection strategies were also evaluated regarding their likely expense, security and practicality. The literature (as reviewed in Chapter 5) revealed that studies of patient-care-related distress in nurses most commonly used paper-based questionnaires to gather quantitative data and semi-structured interview to collect qualitative data. To address the project's aims quantitative data needed to be collected by standardised validated tests, which limited the available media. Nurses' wellbeing has been measured by computerised diaries which assessed occupational stress at random intervals over several the shifts (Johnston et al., 2006). In Johnston et al's study data was collected by very simple rating scales which could be completed in one or two minutes,

however this study will need to ask more complicated and lengthy questions. Delivering the questionnaire online offered security as data could be encrypted and password protected, however, it could not be assumed that all potential participants would have access to a computer. Therefore nurses were offered a choice between completing a questionnaire online or on paper (for details of the procedure see Chapter 7).

5.4 Chosen methodology

In summary mixed methodology was deemed most appropriate for this relatively new area which as yet does not have an established data collection tool. Qualitative methods were employed to scope nurses' reactions to patients' distress, whereas quantitative strategies using standardised tools enabled comparisons to be drawn between this occupational group and normative data.

Qualitative data was collected by semi-structured interviews which pose a standard set of questions asked in a specific order. Therefore, unlike unstructured interviews they have the advantage of facilitating comparison across participants, yet they are flexible. The interview was designed so that data could be collected simply and without adding to participants' paperwork. To maintain eye contact and promote rapport it was decided that the interviews would be recorded using a discrete Dictaphone, rather than the researcher making notes. The interview schedule was designed to be completed in 10 to 40 minutes depending on the length of the participant's responses (see Chapter 6).

The interview themes were used to inform the choice of standardised tools for gathering quantative data and participants were offered a choice of completing an online or paper survey.

5.5 Evaluating the methodology

All data collection strategies have limitations. Overall there are concerns that time pressure facing participants and the potentially sensitive nature of the topic may have hindered recruitment. However, brief qualitative measures were deliberately chosen enabling the data collection to be completed as quickly as possible. In addition, the online survey could be saved and paused, therefore participants did not need to answer all the questions in one sitting. In common with all self-report tools and interviews the data collection was limited to the information that the participants were willing to reveal; therefore there may have been a bias towards the disclosure of more socially acceptable responses (Podsakoff and Organ, 1988) which in this case could mean answers which have greater accord with nursing values. However it is suggested that self-report measures are an appropriate tool for considering participants' perceptions of work-related stressors and strains (Spector and Jex, 1998). A more detailed description and critique of procedures is provided in Chapters 6 and 7.

Chapter 6

A qualitative exploration of how nurses experience care of older adults

6.1 Introduction

The literature reviewed in Chapter 5 revealed that numerous concepts have been utilised and further research is needed to explore the nature of distress as perceived by the nurses. There is increasing evidence that nursing staff can suffer emotional disturbance after witnessing distress in their patients (Najjar et al., 2009; Hooper et al., 2010). The myriad of terms, measures and designs has complicated the research field, making it difficult to clearly establish prevalence, risk factors and even the nature of the experience (Beck, 2011). Therefore this PhD initially aims to use interviews to determine credibility of previously employed concepts, such as burnout.

6.1.1 Aims and objectives

As discussed in Chapter 2, staff caring for older adults can witness decline and challenging behaviour which may adversely affect their emotional wellbeing (Åström et al., 1990; Kuremyr et al., 1994), as is evidenced in other domains of nursing (Jonsson and Segesten, 2003). However, research into the nature of this distress has been hampered by many over-lapping terms and it is unclear if concepts such as burnout would be relevant for explaining older adult nurses' experiences. Without preliminary qualitative exploration there would be a danger of making assumptions about the impact on this staff group, both positive and negative, and using these assumptions to guide the choice of measurement tools, hereby resulting in a less sensitive study with less credible results. Therefore in order to better inform the choice of quantitative measures and strengthen further investigation this qualitative explorative study was designed.

Qualitative methods have been noted to be useful for the exploratory phases of research in which the researcher seeks greater understanding about an area in order to generate testable hypotheses (Nelson and Prilleltensky, 2005). Within this field a phenomenological approach, Interpretative Phenomenological Analysis (IPA) was selected for its flexibility and successful use in other healthcare research (Brocki and Wearden, 2006). For further details of the rationale for IPA please see Chapter 5.

6.2 Method

6.2.1 Ethical review

A complete account of the design, including recruitment, interview schedule and data storage arrangements, was reviewed and approved by a local Research Ethics Committee (REC) and NHS Research and Development offices for the

participating NHS Trusts.

6.2.2 Relevant ethical issues

6.2.2.1 Duty of care

I was aware that due to the potentially sensitive nature of the interview topics participants might recall incidents they had found upsetting, and that discussing such events might have resulted in distress during the interview. I was also mindful that interviewees may use the opportunity to raise concerns about workplace practices, or the behaviour of colleagues or patients. As a further precaution a protocol was devised in the event of participant distress, whereby the interview would be terminated and the participant would be provided with contact information for appropriate resources, such as the staff counselling service available within their NHS Trust. However, no concerning incidents were disclosed during the interview and participants neither appeared distressed during the interview, or reported any negative responses during debriefing.
Participants also had the opportunity to give feedback during post-interview debriefing. I closed the interviews by expressing my appreciation for their time, and after turning off the Dictaphone I asked what it had been like to be interviewed, and if they would like to discuss any of the topics further, or if they had any concerns.

6.2.2.2 Informed consent

Before starting the interview participants were reminded that they could choose how much information they wished to disclose and therefore they could decline to answer any of the questions. The limits of confidentiality and rights to withdraw, as detailed in the Information Sheet, were reiterated. Participants were informed that their responses would remain confidential unless there were any

concerns for patient or staff safety. Informed consent was gained via the Information Sheet and Consent Form with participants providing their initials beside each statement to indicate that they had read and understood the provided information. After addressing any questions or concerns the Consent Form was completed in duplicate, with one copy for the participant's reference and the second added to the site file.

6.2.2.3 Anonymity

Any details revealed within the interview identifying patients, participating organisations and staff were removed at the point of analysis and to further maintain anonymity participants were assigned pseudonyms in the resulting interview transcripts.

6.2.2.4 Data security

Participants were informed that the interview recordings would be stored as encrypted files and back-up copies would be burned to CDs and stored within a locked drawer. As agreed with the REC and Research and Development office, participants were also informed that data would be stored for a period of five years and then destroyed by fire. Signed Consent Forms were stored separately from all data.

6.2.2.5 Recruitment

I discussed the study with senior staff members working within relevant settings and after gaining approval from relevant Research and Development offices and the REC, I was invited to publicise the study on two wards. Potential recruits were approached at the end of staff meetings and issued with a Participant Pack containing information about the study and reply slip with pre-paid postage to

return if they wished to be interviewed.

6.2.3 Participants

A purposive sampling technique was employed whereby participants were selected on the basis that they shared certain characteristics and were able to offer a perspective on the research question (Smith and Osborn, 2008). The sample should be homogenous and sufficient to address the research aims (Brocki and Wearden, 2006), therefore, staff without patient-contact roles were not eligible to participate.

Participants comprised three senior NHS nurses working within the same Trust. All were female, aged 30 to 45 years old and in addition to their direct patient-care role, they held some supervisory responsibilities for junior colleagues. All participants were experienced nurses, with two working for over twenty years and the third had achieved her registration within the last ten years. Two reported additional care responsibilities at home. Given the small sample size, detailed demographics are not provided to help preserve participant anonymity. Participants were assigned the pseudonyms of *Lydia, Alice* and *Laura*.

This sample size is typical for the qualitative studies using IPA, as unlike quantitative studies, a large sample size is not as important due to the depth of analysis involved (Smith and Osborn, 2008). A review of IPA studies revealed that sample size ranged between one and thirty, with design and research aims guiding sampling (Brocki and Wearden, 2006). Strict rules do not govern the choice of sample size and as this methodology does not aim to make generalisations; homogeneity and relevance are more important. Accordingly the sample of three female staff nurses was considered adequate.

6.2.4 Procedure

6.2.4.1 Interview schedule

The interview schedule and procedure were guided by a review of IPA studies conducted by Brocki and Wearden (2006). A semi-structured format was chosen to enable participants to guide the direction of the interview and explore developing areas of interest more thoroughly. Structure and questions were deliberately open-ended and general, to encourage the participant to describe experiences in their own words, hereby revealing their beliefs, perceptions and appraisals (Smith and Osborn, 2008; Johnson et al., 2009). Minimal prompts were used to encourage further information. Examples employed were *"How did this make you feel?"* And *"Why do you think this might be?"*

In order to determine if the participant's experiences had been understood correctly I summarised the discussion before moving on to the next topic. At this point participants were also asked if they wanted to add anything further.

Initial questioning aimed to help establish a rapport between the researcher and the participant. The interview began with a discussion of enjoyable aspects of the role and it was hoped that discussing a potentially positive topic helped to place the participant at their ease, before progressing to potentially more sensitive questions (Memon and Bull, 2000). These opening questions aimed to reveal sources of fulfilment, success or enjoyment within the role, and the reasons behind these positive appraisals.

The next area of questioning explored the more negative aspects of the role. These questions aim to reveal sources of difficulty and the reasons behind these more negative appraisals. The next questions aimed to reveal any self-reflections. Participants were asked to appraise and comment upon their reactions to care work. The final questions related to opinions of the patients within their care. These questions aimed to reveal the participants' thoughts

and feelings about the patients and their understanding of these opinions. The questions asked how the participant would describe their patients as a group and how they felt about these descriptions.

6.2.4.2 Interview procedure

Prospective participants either returned their Reply Slips or made contact directly by email to arrange an interview. Interviews were conducted at the participant's discretion; two took place within suitability quiet and private locations within the workplace and one was conducted within the School of Psychology at the University of Leicester.

Interviews were conducted face-to-face and individually. Each interview was recorded using a Dictaphone (*Phillips Voice Tracer LFH0662*) and lasted between thirty-four and fifty-four minutes. I chose to take audio-recordings rather than make extensive notes, to enable a more relaxed interaction. Each interview was followed by a quick debriefing session, in which the participant had the opportunity to discuss any issues arising, give feedback and comment on the experience of being interviewed. I used this opportunity to ensure that the participant was not distressed by any of the topics discussed.

The qualitative approach acknowledges that unlike the experimental setting, it is not possible to remove or control for all variables which may influence data collection and analysis (Smith and Osborn, 2008). Consequently, within interview research there are many extraneous variables which cannot be removed, such as the interviewer's appearance and identity (Memon and Bull, 2000). Therefore, I sought to document factors which could impact on the inter-personal interaction of the interview, including my own preconceptions about the research topic and the participants. I referred to these notes during analysis to ensure that themes were truly inductive and data-driven.

In addition, after each interview notes were made in a reflective diary noting initial impressions. These comments included observations of how at ease the participant appeared, reflections on the interview setting, factors which may have influenced the topics discussed (such as interruption by patients and colleagues) and preliminary interpretations of the data. I also noted non-verbal information, such as the participants' gestures and apparent affective state.
This diary was also used a means of documenting and raising awareness of sources of bias (mine and the participants) which may have influenced the interview (see Section 6.2.7). Following data collection participants' responses were typed verbatim to form a transcript. Identifying details including names and locations were removed during transcription and participants assigned pseudonyms.

6.2.5 Analysis

IPA employs an iterative and inductive process ensuring that the researcher is immersed in the data, with each transcript analysed separately before building a list of themes. The first step involved reading and re-reading the first transcript to become familiar with the material (Smith et al., 1999; Smith and Osborn, 2008). Next the left margin was used to note points considered to be significant, such as appraisals of a situation, opinions and reflections. Building on the guidance provided by previous researchers, (Smith et al., 1999; Smith and Osborn, 2008) these notes also included preliminary interpretations, connections between ideas and summaries.
Themes emerged in response to two questions: *what is the participant experiencing?* And *how are they explaining their reactions?* Therefore emerging themes reflected both the participants' words and my interpretation, reflecting IPA's double hermeneutic (Chapter 5). The entire transcript was re-read and annotated before moving on to the next step of analysis.

For the third step, titles were sought to capture these preliminary themes and noted in the right margin. The interview transcript was continually referred to, hereby ensuring that the developing themes were indeed a good reflection of the participant's words. To promote transparency, notes were kept detailing how each theme was formed. This was also a means of making the researcher aware of any assumptions potentially biasing the interpretation.

A list was then compiled of these developing themes and attempts were made to look for connections between ideas, and to cluster similar themes together. At this stage it became apparent that some themes were able to explain others and hierarchies were starting to form. A master list of all the themes was complied with super-ordinate themes presented above their sub-themes.

The entire process was repeated with each transcript analysed separately before the final comparison. A list all the emerging themes was compiled and then compared with themes from the other participants. The final master-list was created by selecting themes which most effectively described the participants' lived experiences, as per the aims described in Chapter 5.

6.2.6 Quality control

The analysis aimed to reveal themes grounded in the data, with examples provided allowing the reader to evaluate the fit between data and my interpretation (see Section 6.3). Interview transcripts were scrutinised by the project supervisor and the development of themes was discussed in detail. The richness of data, and depth and adequacy of the interpretations were also critiqued during supervision. The findings were compiled according to guidance from Elliot et al. (1999) for evaluating and presenting qualitative research, and submitted for peer-review. Reviewers' and editor's feedback was then used to strengthen the interpretation. More specifically Section 6.5.7 explains how data and interpre-

tations were appraised as per Guba and Lincoln (1989)'s criteria for credibility, dependability and transferability.

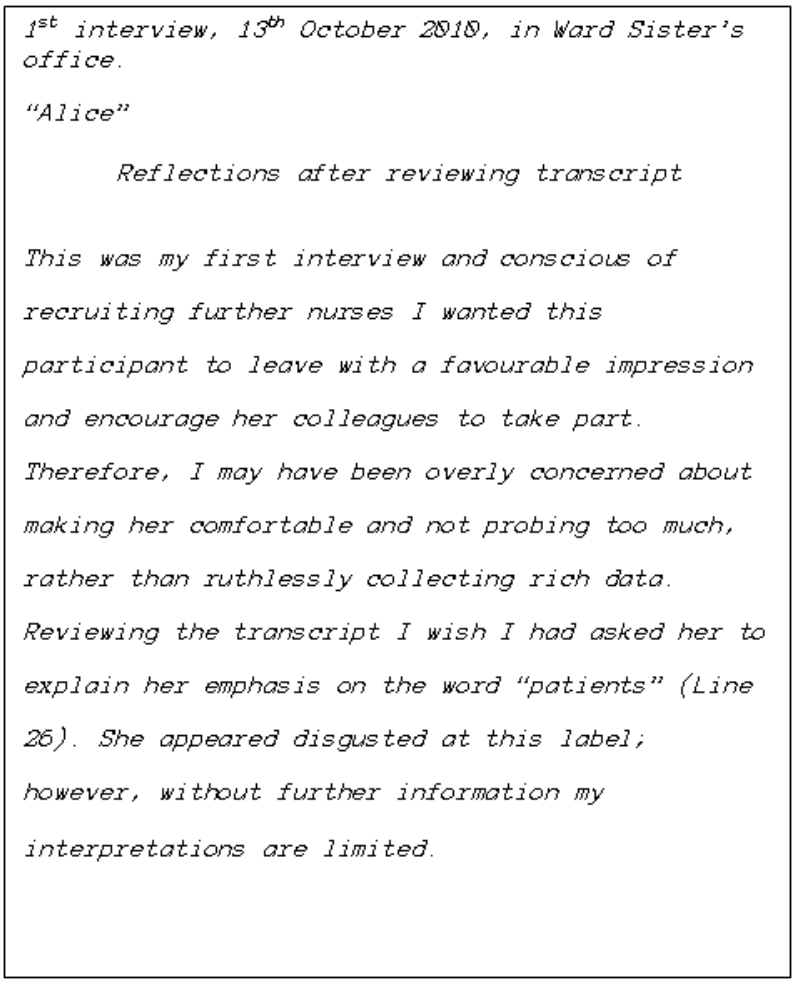
6.2.7 Reflexivity

Qualitative methodology acknowledges that researchers are in effect active participants within the interview (Allen and Walker, 2000). Furthermore, as detailed in Chapter 5, within IPA interviewers engage in a double hermeneutic, in which they are making sense of the participant's attempts to make sense of their world (Smith and Osborn, 2008). This interpretative process can be influenced by memories, preconceptions and opinions (Husserl 1913/1983 cited in Smith and Osborn (2008)) and controlling these individual variables is not possible, rather their impact is reduced by attempting to make the subjective obvious. The phenomenological philosopher Husserl advised acknowledging and documenting these influences and noting how they might impact on your analyses. In this section methods are described for documenting sources of subjectivity and I explore how differing agendas (mine and the participants) might have impacted on the interviews.

6.2.7.1 Themes from the diary extracts

I used a reflexive diary to document preconceptions before meeting participants, initial impressions and reflections during analysis. These notes were useful to ensure that subsequent themes were based in the transcripts and also for reflecting on aspects which may have influenced the interaction between interviewer and participant. There is an example extract in Figure 6.1.

Figure 6.1: Extract from researcher's reflexive diary



6.2.7.2 My motivation (the researcher position)

I began this PhD after working alongside nurses and social workers as an undergraduate student. I watched some exceptionally motivated, invested colleagues leave their jobs due to what was vaguely described as "stress". Observing these few incidents I wondered if "caring too much" left some staff more vulnerable to occupational stress and illness, than their seemingly more detached colleagues. As a result I became interested in research which could potentially safeguard the careers of human service workers. This ambitious aim was refined with the

assistance of my supervisors into a more manageable PhD project. However, the initial motivation to help remains; and during the interviews I was concerned that I was trying harder to reassure participants and make them comfortable, than gain rich data. However, on reflection, I realised that unless the participant felt relaxed and reassured, they were unlikely to communicate anything personal and of interest to the study.

6.2.7.3 Participants' agendas

I was aware that recruitment and data collection following several negative reports about older adult care might be problematic (for examples see Gallagher et al. (2008); Parliamentary and Health Service Ombudsman (2011); Berry (2004); Lomas (2010); Gillet (2012)). Specifically I was concerned that managers might have been reluctant to exposure their staff to outside scrutiny and participants likely to be cautious, and possibly even defensive. As a result, during recruitment and data collection, I offered reassurance that I was seeking nurses' accounts of their experiences. I emphasised that rather than seeking evidence of problems, I was interested in what they perceived to be the more challenging aspects of providing care to older adults. I tried to highlight that the research was about their opinions, rather than others' preconceptions of the nursing role. My attempts at reassurance appeared sufficient, as I was able to gain detailed interviews from three senior nurses.

However, in my reflexive diary I noted that participants appeared cautious, in fact *Laura* arrived with a list of information she wished to include and for the start of the interview she appeared to be consulting a rehearsed statement. During debriefing she explained that she had been worried about "saying too much". However following the interview she felt better "to get that off her chest". It appeared that she had attempted to express her frustrations with her

managers, but felt ignored and she stated that due to tiredness and working beyond the end of her shift she felt "very down this week".

I found this to be the most difficult interview to conduct. I did not want to exacerbate any distress by asking questions about her work, which was clearly upsetting her. Yet I was keen to hear all she had to say, as this was a very interesting account of her attempts to balance her ideals of nursing with the realities. Bringing her notes she demonstrated that there was a lot she wished to communicate and perhaps by meeting outside of her workplace, with an external researcher, she felt safe and permitted to communicate her frustrations.

6.3 Results

Systematic analysis of the transcripts revealed four themes: *fluid boundaries, emotional regulation, distress and growth* and *humanizing patients.* An overarching theme was chosen to reflect the commonalities between all four subthemes, named maintaining integrity, it reflected participants' efforts to contain their reactions, remain true to their values and prevent work affecting other aspects of their lives (Figure 6.2).

6.3.1 Maintaining integrity

Laura described continuous conflict between undertaking essential paperwork and addressing the more immediate needs of the patients.

Laura L243:

...I don't know whether everybody's like this, but me I'd rather give the care because that's what nursing is all about, giving the care to the patient, so I'll give the care to them, I'll take them to the toilet, I'll help them with the water, erm, but then that's taking more time from my other jobs that I need to do,

Figure 6.2: Interview themes

which I'll then probably have to do at the end of the day.

Similarly *Lydia* admitted that certain tasks may be more convenient for the nurses and prioritising the needs of the patient was "a battle".

Lydia L62:

. . . you just feel sometimes it's a bit of a battle isn't it, just to get -just to keep reminding everybody that it's the patient that matters and we shouldn't be doing things because they are convenient for <u>others</u>, . . . we shouldn't be doing them because they are convenient, we should be doing them because they are of <u>benefit</u> to <u>patients</u>.

Alice also described unpopular choices that she feels have to be made when her ward is short-staffed:

Alice L62:

. . . sometimes a bit frustrating though the staff go "hoh! We are cancelling the study day!" <u>but</u>, you have to take very-, I would say, an approach that will help prioritise care and leave the less- not less important- but the things that could

be done later and just concentrate on the direct care for the patients ...

This struggle to maintain a sense of integrity is explored further in the following four sub-themes.

6.3.2 Emotional regulation

This theme was used to describe experiences of trying to control emotional reactions in the self or others. Staff talked about the need to "be professional" and not show reactions such as anger or distress. They felt that it was vital to suppress their own emotional responses in order to be get the best from the situation. For example *Alice* described her reactions to a patient recalling unhappy memories:

Alice L339 :

Sometimes they talk about their life experiences, erm, which, putting yourself in their shoes they-they cry and-but you try as much as possible to stay strong and you know, erm, help them go through to just allow them to talk through and talk and talk.

Alice admitted that she was affected by these experience, however, as a nurse she felt a need to suppress her own reactions in order to allow the patient to express their feelings:

Alice L120:

... although it upset you, you-you have to, to-to be very neutral and not show that side-that side as get them to talk and get somewhere else.

In contrast to regulating their own emotions, staff also discussed a need to manage the emotions of others. *Laura* described her reactions to a situation in which a patient was threatening to leave the ward. She was attempting to balance multiple demands; a desire to respect the patient's autonomy, concerns for her patient's welfare and a need to bring calm to the ward environment. As

a result she reported feeling uncertain anxious and frustrated:

Laura L191:

Erm . . . Ah-I've had experience where I've, probably felt, erm, tense and uptight, probably unsure of what to do next.(. . .) so frustrating I suppose, anxious yourself but knowing you've got to- you've got to keep the situation calm.

Similarly *Lydia* described facing multiple requests for assistance with limited staff available. When encountering disgruntled patients, she apologises and justifies her choices; however her tone suggested exasperation:

Lydia L136:

. . . there's only me here, or if there's just me and another nurse we can only physically, go, take two people at any one time to the toilet, so if there's a third person asking they're gonna have to wait, and that's sometimes a bit frustrating, erm, especially when you walk in and they go "we've been ringing for ages" and it's like "I am really sorry but I was next door with somebody", and I think that does frustrate nurses.

In summary *emotional regulation* described nurses' attempts to control difficult situations through restraining emotional responses in themselves and others. They felt that such restraint was vital for managing situations both effectively and professionally. These behaviours suggest that the participants were engaged in what is termed *emotional labour*. Emotional labour, first defined by Hochschild (1983) p7) as the "management of feeling to create a publicly observable facial and bodily display", has been reported in many human-service roles, however, in Section 6.4.4, it is argued that a role demanding extensive emotional labour can have negative consequences for staff (Glomb and Tews, 2004).

6.3.3 Fluid boundaries

This theme was used to describe the sense of a lack of division between the self and work. For some this took the form of thoughts of work invading time at home:

Laura L52:

I think I even dream about work, I'll wake up in the night thinking about work, it's constantly there.

In contrast, this sense of permeable boundaries was perceived by some to be a positive asset; by employing thoughts of work as an opportunity to plan their next shift, staff were able reflect and improve performance:

Alice L184:

. . . by reflecting on the day's work I think tomorrow yeah, I could done in this way and when I go tomorrow I try and do it in a different way, erm, up 'til now I still think about my routines, what to do, ok last week I was doing it as soon as I come in I need to do this, if I could do it this way and look at my emails around this time, so I am still, trying to juggle things, and see which is the best and erm benefits my patients and staff as well.

However, there is concern that intrusive thoughts and ruminating could lead to distress and prevent sufficient relaxation when off duty, hereby impacting on concentration:

Alice L222:

Because you're not able to draw the line you are at home, still thinking about things and so you're tired, mentally.

Shift boundaries also appeared permeable, with staff extending the working day beyond prescribed limits. Consequently there is a concern for staff turnover, as nurses unable to gain sufficient rest may consider leaving the profession, as *Laura* commented:

Laura L264:

I'm later getting home, um, I've got a family at home, erm, I constantly feel tired, erm, to be honest I've got to the stage where I'm thinking, do I want to do this any longer . . .

Staff felt boundaries were important either as emotional temporal or physical divisions, however, maintaining them in reality was difficult. *Laura* described the importance of being able to engage and then quickly leave or switch to the next patient:

Laura L348:

You've got to be able to break away when you need to.

She expressed a need for psychological or emotional distance when talking with patients, however later in the interview she admitted that she found it difficult to refuse requests of help and as a result she was staying beyond the boundaries of her shift:

Laura L269:

this-this is going to sound probably not very nice but some people are probably able to say "no I can't do that for you I've got other things to do, I've got my writing to do, or" . . . erm, will probably leave the patient, whereas, I, would rather, help them, but there is a lot of the staff that are staying longer.

Similarly *Alice* described physically leaving the ward and attempting to transfer to her role at home, however despite her good intentions she was unable to psychologically disengage from work completely:

Alice L197:

Yes, that's family life and that's work life (gestures with hands) but you never-I mean there are sometimes I've gone home and I've come back in the evening, just to, get things done.

In addition to needing extra time to complete all tasks staff felt that within the

confines of the working day insufficient time was available to effectively process their experiences, therefore they would ponder the events of the shift when at home.

Laura L45:

I think it's a way of winding down at the end of the day, you do so much and the day is so full of things, I don't think you have time to think about it particularly when you're at work but winding down at night when you're in bed, you do just go through things and you think, what you have done and how you could have probably done things better if you could have done.

The nurses admitted that maintaining boundaries was a difficult task, as sometimes it involved removing yourself from people asking for help. The theme of *fluid boundaries* describes both physical and emotional separations between the nurse and her patients and work and home. These boundaries were perceived to be important for achieving rest when off duty; however, in reality conclusion of the shift did not ensure the cessation of concern. Therefore, achieving a strict division between work and home was difficult, with staff using time to review their performance and even staying to complete work after their shift finished. Implications of this theme are suggested within Section 6.4.2.

6.3.4 Distress and growth

This theme was chosen as all participants commented on how the work had changed them in some way. For some, working as nurses within older adult care had been a positive experience. *Laura* described a mix of satisfaction and sadness when she becomes aware of how much patients appreciated what she considers basic care.

Laura L21:

I feel sorry for them in a way, cos really it's what they're entitled to and it

makes you feel good that they appreciate you and you feel as though you've done a good job. Satisfaction at helping patients appeared to be a great source of intrinsic reward, however when targets were not met frustration could result as *Alice* described leaving at the end of her shift:

Alice L166:

Most times I would say, I feel satisfied because I am leaving and the patients look comfortable, they look happy, they are dressed in their own clothes, I mean, if they've got them, and they look well looked after. There are some days, and I'm leaving, and going "oh no, I couldn't do that and I couldn't do this and I've got this to do an this to catch up", and I feel a bit like pulling my hair out, oh no, I've got so many things to do now, but it's not, that many times I go through things like that.

Lydia described how nursing has changed her perspective on mundane responsibilities, such as bills, and this enhanced awareness of her own mortality had both positive and negative implications.

Lydia L315:

it's like I keep saying to my bank manager (laughs) when I go in and I'm with these credit card bills and he's like "you need to do this and" "why (laughs) I'm only here once, I'm enjoying myself" (laughs), erm, y'know it's that sort of mentality, it's everybody, hopefully, gets old and it's how you're going to be when you're older and you can't really predict that

She believed, as a younger nurse, that reaching old age was an almost a certainty, however she could not predict how exactly her life and health would change, and interacting with her older patients reminded her of this uncertainty:

Lydia L314:

That could be my future, so it does make you feel quite humble, sometimes quite scared, for your own future.

Alice noted that some interactions could be distressing, especially if the patient recalled upsetting memories:

Alice L335:

Sometimes it's upsetting because they are talking to you about things that get them upset as well, they talk to you, our patients are female and they talk to you about the death of their-their siblings their husbands and how it's affected them, and sometimes it upset you, you go from their bedside and you're upset yourself.

It would appear that through observing and talking with patients staff felt more aware of their own vulnerability and considered how ageing could impact upon their own lives:

Alice L345:

. . . there was a patient who is very upset because she's got only one son, and the son was in The City day before and was moved from The City, she never hear from him, so every time you go to her you want her to talk about it and she quite upset and I've got sons I haven't got a daughter (laughs) so oh gosh (laughs) that's so scary!

[Interviewer: So sometimes, you see them, and you think, about your own family then?]

Alice L351:

Yes.

[Interviewer: Is that quite common in nurses perhaps?]

I would say, yes, although we-they-there should be like, again, drawing the line, erm, but still, sometimes as a human being, it's difficult.

The theme of *distress and growth* summarised the emotional impact, with staff reporting positive reactions in the form of satisfaction when perceiving that their care has made some difference. An enhanced awareness of their own mortality

was also described, which could lead to new priorities, however identification was also associated with sadness, as staff contemplated the uncertainties of their future. Yet, it should be noted that these participants did not report avoiding distressing situations as a result of these reactions. For example *Alice* actively encouraged upset patients and staff to talk to her, suggesting that her distress was not adversely affecting her ability to interact with patients and perform her role. These interviews do not reveal the impact or explain apparent resilience. Accordingly further study is also needed to establish if nursing results in long-term changes to nurses' emotional wellbeing. The Interpretation section explores how these aspects might be investigated further.

6.3.5 Humanizing patients

In this final theme participants demonstrated their attempts to understand the patient, their basic needs, and what made them comfortable and acknowledge the impact of their condition. For some this took the form of discovering their patients' worlds, learning about their past and what they have lost, as *Lydia* comments:

Lydia L334:

there he was, not very mobile and still has all those memories, and it was like,(whispers) "my god, you're a bit scary" (laughs), "I said you were scary when you were younger" and he said "how d'you know I'm not scary <u>now</u>?" And it's like, <u>ok</u> (laughs) y'know he was sort of like-it's interesting to get to know people, get to know what people have <u>done</u>, in their-in their lives.

Participants commented on the positive changes they felt were possible through building relationships and enhancing their understanding of the patient. *Alice* talked of difficulty communicating with an elderly patient until she discovered how she liked to have her breakfast prepared. This simple act brought about a

profound change and she found the situation satisfying:

Alice L16:

It was so amazing to know little things like that about people that made massive change in their lives in hospital and so getting to know them and helping them achieve something.

[Interviewer: So how does that make you feel?]

Aw it makes you feel amazing when you're going home and knowing she was really disorientated, becoming aggressive very restless and now she's settled cos we know her better.

[Interviewer: So it's all about getting to know them as people?]

Yes and as individuals not patients!

She expressed this last word with such emphasis, however, without further probing I cannot be certain why she was expressing strong dislike for this label. It is possible she felt such labels were discordant with individualised care and prevented staff from seeing the person beyond the illness. If opportunities had been available to conduct repeat interviews this is one of the aspects I would have liked to explore further (see Section 6.5.4).

Laura agreed that talking with patients could yield many benefits.

Laura 370:

it helps because you obviously get to know their background, how they feel what they can do, and it helps you to assess if and where they're going back to what bed and if they need extra help, if they need to go into a placement, things like that, what kind of support they've got at home, just by talking generally to them you can find a lot out about if anyone does help them.

She also noted that gaining an understanding about the patient may have a beneficial impact on their recovery, for example by learning about their concerns, staff can take steps to reduce anxiety. Laura illustrated this by referring

to a case of a recently admitted patient "*worried sick about what's going to be happening to her cat*":

Laura L377:

if you talk to them you can find that out and you can probably do something about it and it helps them, they set, they're relieved because they know something's been sorted and it takes pressure of them and they can relax and concentrate on getting better.

Talking also appeared to be rewarding, for instance when asked about most enjoyable aspects of her role *Lydia* described the satisfaction of attending to both the patient's basic and social needs:

Lydia L119:

It was nice to leave her y'know she felt all clean and fresh, sat in the chair, cup of tea, piece of cake, so that was nice, I felt almost like how it should be, she felt cared for, she'd had all her, her needs met, she'd been able to have a chat.

Talking appeared to have a further benefit. As a means of also gaining important information it could personalise and enhance the care available, as *Alice* summarised:

Alice L326:

You know all about their life, they will go on and on and on, so you feel like you've chatted to them and you've made them, happy ,when you are leaving them, getting to know them better and giving them that, dignity, and individualised care, it's very satisfying well, caring for them in the way that they cannot do themselves.

However, there may also be negative consequences, with a lack of reciprocity in the interactions leading to nurses feeling fatigued. During a discussion about empathy, warmth and what makes "a good nurse" *Lydia* commented that without adequate resources or barriers, nurses "who give too much" may feel too

tired to continue these intense emotional interactions.

Lydia L394:

. . . one of my colleagues who basically she's suffered from some burnout but she said she felt as if she'd been giving and giving and giving and not getting anything back and I think sometimes, that could be where staff burn out, so if you don't have the support mechanism or, y'know you-do you give all of yourself?

The theme of *humanising patients* described efforts to build relationships and gain useful important information through conversation. Satisfaction was also gained from interacting with recipients of their care. However there was a need to balance patient care with self-care; consequently nurses reported the difficulty of being warm, building relationships with patients and their relatives, yet keeping some distance to avoid feeling over-extended.

6.4 Interpretations

6.4.1 Distress and growth

The interviews revealed that nurses found their helping- role rewarding, and exposure to other's distress did not have consistently negative consequences. Hooper et al. (2010) suggest that a protective mechanism, known as compassion satisfaction may be responsible as this experience can help to mitigate the negative aspects of working with distressed patients. This sense of satisfaction in helping others may be able to explain apparent resilience even in distressing situations. In addition, there is evidence that following a distressing experience individuals can undergo some form of positive change and that distress and growth are not dichotomous experiences (Linley and Joseph, 2004). Similarly, Taubman-Ben-Ari and Weintroub (2008) observed that nurses and physicians exposed to terminally ill patients reappraised their own lives and consequently

derived some meaning and benefit from these encounters. Building from these themes, the online survey employed a measure capable of assessing both positive and negative consequences of caring (details on the Professional Quality of Life Scale (ProQoL; (Stamm, 2010) are provided in Chapter 7).

Previous research has noted that nurses report heightened distress after witnessing pain in patients with whom they could identify (Brysiewicz, 2002; Jonsson and Segesten, 2003; Jonsson and Halabi, 2006). Accordingly empathy for the patient is thought to moderate the impact of traumatic experiences (Mealer et al., 2007). Empathy has been shown to be an essential aspect of successful nursing, with 50 per cent of the variance in patient distress accounted for by nurse-expressed empathy and patient perceptions of nurse empathy (Olson, 1995). Patients appear to respond positively to empathy in nurses, however, qualitative evidence proposes that empathetic care can have negative implications for nurse wellbeing (McCreight, 2005). With researchers suggesting that empathy can increase susceptibility to compassion fatigue and burnout (e.g. Livingston and Livingston (1984); Figley (1995a); Macintosh (2007)) the role of empathy was investigated in the online survey (see Chapter 7 for details of how these concepts were defined and measured).

Researchers have argued that burnout in nurses is not consistently associated with emotional stressors, such as witnessing decline and death (Bakker and Hueven, 2006). Rather demands perceived as more stressful relate to non-interaction aspects, such as workload. Accordingly, burnout may only become problematic in the presence of inadequate support mechanisms or low staffing, as one nurse commented:

Lydia L397:

If you don't have the support mechanism, do you give all of yourself? Therefore the online survey also gauged perceived social support and perceptions about

the workplace (see Chapter 7).

6.4.2 Fluid boundaries

This theme suggested that staff felt their working day provided insufficient time to sufficiently process everything that they experienced. It appears to be difficult for nurses to reach out to colleagues (Jonsson and Halabi, 2006) and share their experiences, yet shared discussion has been suggested as a source of resilience and recovery (Maytum et al., 2004).

There is a concern that ruminative thoughts could be adding to anxiety and preventing adequate rest. Research has demonstrated rumination as mediator between work stress and disrupted sleep, whereby who staff ruminate transfer the negative effects of work into their leisure time and their sleep is impaired (Berset et al., 2010). Furthermore nurses' rumination about work has been associated with the emotional exhaustion aspect of burnout (Donahue et al., 2012).

Clinical supervision could be used to explore reactions and find a way of processing thoughts before leaving the workplace. Furthermore Hooper et al. (2010) comments on the need to promote self-care strategies before problems develop. However, there is concern that nurses feel reluctant to seek help for fear of being labelled as unable to cope, hereby harming their career progression. Concerns about stigma and professional reputation have also been noted to prohibit police and fire-officers from seeking assistance (Mitchell and Bray, 1990). It is therefore argued that self-care behaviours need to be perceived integral to the role and as vital as safety equipment (Mitchell and Bray, 1990). Within nursing, seeking counselling has been associated with reaching a crisis warranting intervention, yet less formal options such as clinical supervision appear routine and therefore carry less stigma (Mackereth et al., 2005). It could therefore

be argued that clinical supervision rather than being a voluntary sporadic experience, could be integrated into the routine hand-over period at the end of the shift. However, it is important to maintain quality and short supervision sessions may not be adequate, yet longer ones may extend the shift and be an unpopular policy. Finding feasible and effective support is an on-going challenge (Butterworth et al., 2008).

6.4.3 Humanizing patients

The interviews revealed that nurses felt it was important to understand the patients as individuals, perhaps reflecting recent paradigm shifts, especially within dementia care (Brooker, 2007). Additionally relationship-building was perceived beneficial to care as it often enabled useful information to be gained along with intrinsic satisfaction as nurses appeared to enjoy the patient-centred approach. Concerns about lack of reciprocity and depletion of emotional reserves were explored by measuring the emotional exhaustion facet of burnout (see Chapter 7).

6.4.4 Emotional regulation

The interviews suggest that the staff experienced negative reactions shared by their patients including, sadness, frustration and anger, however, in order to remain professional and productive they felt it was important to control their emotions. These efforts suggest that in agreement with previous research there are norms governing nurse appropriate behaviours. Bakker and Hueven (2006) argue that there is an expectation that nurses should demonstrate an open and compassionate regard for their patients and this may conflict with their true emotional state. In the literature the experience in which employees seek to suppress their true reactions in order to present a more occupation appropri-

ate image has been termed emotional labour (Hochschild, 1983). Employees may adopt these behaviours in order to improve outcomes within the workplace (Grandey, 2000). Cross-industry studies have reported human service workers, such as nurses, showed significantly greater need to mask their emotional responses and present more acceptable emotional displays, in comparison with other occupational groups (Brotheridge and Grandey, 2002).

Furthermore, Brotheridge and Grandey (2002) found evidence that attempting to manage emotions can be associated with heightened personal accomplishment, suggesting that emotional labour can have positive implications for staff. However this study pooled nurses' data with other human service employees and it could be argued that this process could have masked a negative association specific to this group. Discrepancy between expressed and felt emotion, or emotional dissonance, has been shown to impact adversely on employee wellbeing (Bakker and Hueven, 2006). In a study of nurses working in the Netherlands, Bakker and Hueven (2006) discovered that heightened cynicism and burnout were associated with dissonance and incongruity between during emotional intense patient interactions. These reactions are facets of burnout, a specific form of occupational stress which has potentially far-reaching consequences (Maslach et al., 1996; Mackereth et al., 2005) as explored in the online survey (Chapter 7). Transcript findings alone are not sufficient to confirm if staff were experiencing burnout, however it can be argued that they demonstrated emotional dissonance, suggesting susceptibility (see Chapter 7).

6.4.5 Other aspects to be investigated by quantitative survey

The interviews suggest that perceptions about the workplace should be explored; as nurses' self-care behaviours, such as working past the end of their

shift appeared influenced by perceived support and workplace norms. Therefore the proceeding quantitative data collection phase employed measures of perceived social support and organisational culture (see Chapter 7)

6.4.5.1 Using feedback from nurses

Nurses also had the opportunity to give further feedback on the interview results and make suggestions for future projects. Participants expressed interest in the policy implications of the research findings and therefore when presenting the survey findings to staff I will attempt to explain comparisons between Trusts and explore how work experience and age may impact on staff burnout.

6.5 Evaluations

A diary was used to document assumptions and reactions which may have impacted on the study in terms of data collection, recruitment and analysis. For example, after reviewing the literature, I was aware of a preconception that interpersonal interaction with distressed patients and relatives would likely impact upon the nursing staff. I was concerned that these assumptions would leading the direction of questioning in the interview and later during analysis these preconceptions may lead to biased interpretations. To control for such biases I added to my reflexive notes before and after each interview and consulted my research diary again during analysis to ensure that conclusions were truly data-driven. Throughout analysis the transcripts were continually consulted and themes were further reviewed during supervision.

6.5.1 Impact of interview setting

Within interview research uncontrollable factors can have an impact on the interaction and hence the findings (Memon and Bull, 2000). I am aware that as a non-nurse associated with a local university, I may have been perceived as an outsider arriving to expose the ward to scrutiny, especially due to recent negative media attention (Gillet, 2012). Unable to remove the context of media criticism, I made efforts to emphasise the more positive nature of the study and stressed during recruitment and data collection that the interviews were to be led by the participant.

All interviews but one took place with the participants' places of work. This setting may have led interviews to be shorter with the participant aware of tasks that needed to be completed. Alternatively, participants may have considered the research as an opportunity for a management-sanctioned break and therefore the interaction may have been longer and more relaxed than if they had participated in their own time at the university. No attempt was made to encourage staff to leave the workplace to be interviewed, as to encourage participation it was important that the interviews were not perceived as an inconvenience and therefore they all took place at a location chosen by the participant.

6.5.2 Choice of setting

This qualitative study explored staff experiences in order to inform further investigation, specifically guiding the choice of quantitative tools (see Chapter 5). However, the PhD project originally intended to explore and compare staff experiences from two healthcare contexts; nursing staff working in acute wards and staff working within residential homes. The rationale being that older adults in the UK are likely to experience care within both acute wards and

residential facilities; with both contexts currently under-researched. Interview and survey data would enable a broader understanding of staff experiences, hereby informing policy to enhance working conditions and care. However due to logistical constraints this plan was adapted and more feasible data collection options adopted.

Collecting data from healthcare settings poses certain challenges, such as gaining access to the organisation via gatekeepers and fulfilling potentially lengthy research governance requirements. Furthermore, recruitment of busy professionals can also be problematic. During recruitment it became apparent that it was not feasible to run a parallel study of two different healthcare contexts. The NHS resources, such as staff email accounts, and a more research-focussed culture, made publicising the research and arranging preliminary meetings with gatekeepers and potential participants marginally easier.

The quality and relevance of the data was also considered when making the choice of which setting to focus. Transcripts were reviewed, considering their ability to answer questions about staff experiences of older adult care. Transcripts from the residential home provided interesting insights into a wider range of issues, including caring for younger adults with learning difficulties and mental health conditions. IPA guidelines advise using a homogenous sample (Smith et al., 2009) and therefore pooling findings from both samples was not deemed appropriate, especially given marked differences in occupational practices and culture. Feedback was provided to all workplaces, and it was decided that further research would only involve NHS staff.

6.5.3 Recruitment

It was important to achieve a homogenous sample, however to maximise recruitment opportunities participation was open to both full and part-time staff,

including registered nurses of all grades and nursing assistants. I therefore had the option of using this study as a trial if sufficient numbers were recruited, or if the sample was too heterogeneous sample, or if the interviews yielded poor quality data. I would then have the opportunity to refine my strategies for recruitment and data collection. However, I recruited three female nurses of similar rank, experience and working hours. It was not my intention to recruit only staff nurses, however a snow-balling effect appeared to occur when the first participant finished the interview she talked to other colleagues of a similar rank and encouraged their participation and the assumption spread that staff nurses were required. Furthermore, it is also possible that more senior members felt able to take time from their duties to participate.

It was difficult trying to balance the needs for a homogenous sample with the search for willing participants. In hindsight, a more focussed recruitment campaign, with publicity aimed at specific ranks of nurse explaining why each grade was of interest, might have been more effective.

6.5.4 Limitations of single-stage data collection

Nurses were only interviewed once due to the ethical and logistical difficulties of re-contacting staff. There is a concern that with only one round of interviewing important issues may have not been revealed, and it could be argued that without time to establish trust, participants may have provided what they believed to be appropriate, socially-desirable answers (Whittington and Burns, 2005). A second interview could enable themes to be explored in greater depth and probe areas initially over-looked. Furthermore re-interviewing after the presentation of the results could have been valuable, with all original participants providing feedback on the interpretation and credibility.

6.5.5 Limitations of IPA

This methods assumes a double hermeneutic with the researcher trying to make sense of the participant as they interpret their own world (Smith and Osborn, 2008). Therefore interpretations can be limited by the participants' ability for reflecting upon and articulating their thoughts and experiences, and also the researcher's skill for reflection and analysis (Brocki and Wearden, 2006). This potential limitation applies during data collection, with participant and researcher both influencing the question sequence, use of follow-up questions and prompts and the topics discussed and also within the analysis and interpretation stages.

6.5.6 Alternative approaches for qualitative data analysis

This qualitative data has been collected to inform and guide further data collection rather than inform theory. As described in Chapter 5 Selecting the Methodology, Grounded Theory has been employed successfully within health research. However as Grounded Theory seeks to generate a explanations for phenomena, rather than exploring and describing (Chamberlain, 1999; Charmaz, 2008), it does not meet the study's aims.

Thematic content analysis is another flexible approach used within studies of nurses' experiences of burnout and compassion fatigue (Maytum et al., 2004; Yoder, 2010), it can be argued that this analysis is best applied for describing and categorising phenomena (Elo and Kyngäs, 2008), rather than exploring experiences. Therefore, it would be better suited to identifying aspects of more precisely conceptualised phenomena.

6.5.7 Credibility

Unlike quantitative research, qualitative projects do not seek to recruit participants that are statistically representative of a population in order to generate findings that can generalise beyond the sample. However, it is important that the findings are applicable to the sample under exploration (Smith et al., 2009). Qualitative research within nursing has been criticised for insufficient rigor, with validity and reliability often overlooked (Appleton, 1995). With their differing philosophies, measures of rigor applicable to quantitative data may not necessarily apply (Morse et al., 2002). However, researchers have argued that qualitative projects should seek to establish rigor through credibility, dependability and transferability (Guba and Lincoln, 1989).

Findings are deemed transferable if they apply beyond the study situation and if the audience deems them to be meaningful (Appleton, 1995; Koch, 2006). I had the opportunity to discuss the findings at conferences with experienced nurses working in older adult care from other regions of the United Kingdom. It became apparent that the themes were perceived to be relevant and applicable to the conference delegates.

The findings are deemed credible if they represent the experiences of the sample (Appleton, 1995). In order to determine if the findings were deemed an accurate reflection, the results were presented to registered nurses with over 16 years of experience working in older adult care. Staff had the opportunity to complete a brief feedback sheet (Appendix Q). Of 12 matrons, 6 felt that the findings reflected their experiences or those of their colleagues and the remaining 6 agreed that they reflected experiences of older adult care to some extent. Feedback was also gained from 6 ward sisters, one of whom participated in an interview (*Lydia*), with 5 answering positively when asked if themes were appropriate to their experiences and experiences of nurses in general. No participants indicated

that they felt the conclusions were not credible. Participants of the feedback session were assigned pseudonyms, for example, *Amanda*, *Kirsty* and *Veronica*. Although inappropriate for this methodology, during feedback staff expressed interested in the generalizability of the findings. For example, one nurse commented that the themes may be less appropriate to other environments with constraints within the ward influencing patient interaction and hence relationship building:

Amanda:

I work in the Emergency Dept so experiences of nursing this group are for much shorter periods of times, so emotional involvement would be quite different.

Unfortunately from the limited written feedback provided it is not possible to determine exactly why she thought emotional involvement would be different and how she would define these interactions. Within the literature there is evidence from a multi-national systematic literature review by Aminzadeh and Dalziel (2002) that accident and emergency departments employ episodic and disease-orientated models of care ill-suited to the complex needs of older adults. Further research could explore if perceived barriers to care are resulting in distress, as respondents suggested:

Veronica:

Sense of frustration- lack of ability to adequately care for the older person in A E.

Kirsty:

Staffing levels causing distress, unable to meet needs of older people.

Ideally feedback would be gained from all former participants, however the study took place during a time of organisational restructure, in which wards were reorganised and re-accessing staff was problematic. In addition, I had an ethical duty to maintain the respondents' anonymity, and therefore, seeking

specific staff for feedback was not a possibility. As a compromise I sought to communicate the findings to a large as possible group of staff which would maximise the possibility of gaining feedback from former participants. Through her comments and answers *Lydia* indicated on the feedback form that she believed the results to be credible.

Lydia:

Feel that the presentation truly reflects the experience of myself.

Overall the feedback was very positive and therefore it would appear that staff felt the interview results captured their experiences. It is unfortunate that re-accessing staff was difficult for ethical and practical reasons. Second interviews with participants would be useful to explore themes further, including comments given during the feedback session. For example, *Lydia* stated on the feedback form that the fluid boundaries "are greatly influenced by the context of the occasion", and without further questioning it is difficult to interpret this comment fully.

6.6 Conclusions

In summary, participants reported strong positive and aversive feelings about their work. The interviews revealed evidence of identification and empathetic engagement associated with distress. Distress appeared to best fit the burnout model (Maslach et al., 1996) rather than secondary traumatic stress explanations (see Chapter 3).

Within the interviews, especially within themes of *fluid boundaries, growth and distress* and *humanizing patients*, participants discussed how they attempted to manage their responses to their workload and addressing relatives and patients' demands. Responses included sadness, frustration, fatigue and identification

which nurses reported were not necessarily addressed within the workplace. Experienced registered nurses participating in the feedback session were also aware of the need for accessible support and also for resilience, however seeking formal support appeared taboo:

Amanda:

Need to be emotionally resilient to work in this environment otherwise "burn-out".

Grace:

With fatigue- for in nursing that if you seek professional help in counselling you have crossed the line and become a patient yourself.

It should also be noted that staff appeared to gain intrinsic satisfaction from their work and perceived that the environment had contributed positively to personal growth. In summary, interviews revealed evidence that nurses caring for older adults can be emotionally affected by their role, however, questions remain about associations between staff characteristics and responses to patient care. Hereby these results guided the design of further research into staff wellbeing by assessing potential moderating factors such as age, empathy and experience (see Chapter 7).

Chapter 7

Quantitative survey

7.1 Introduction

7.1.1 Background

This survey aimed to find explanations for variance in secondary trauma. Evidence guiding the design of this quantative survey came from two sources: a systematic literature review of secondary trauma in nurses (Chapter 4) and qualitative interviews exploring nurses' experiences of older adult care (Chapter 5). The systematic literature review revealed that secondary trauma has been associated with many variables including experience, age, gender and relationship status. However findings were not unanimous and as a result, these and other variables such as social support, and empathy, with greater theoretical than empirical support, have been included as potential predictor variables. The Concepts section provides the rationale for choosing the terms (7.2.5 Concepts) and the Measures section justifies the choice of psychometric tools (7.2.6 Measures).

7.1.2 Survey aims

This study employed standardised tools to determine prevalence of distress in the form of compassion fatigue and burnout in nursing staff providing older adult care. The secondary aim of this study was to determine predictive variables for any detected distress.
Accordingly the survey collected data to address the following questions:

- What is the prevalence of compassion fatigue and burnout?
- Does empathy explain variance in compassion fatigue or burnout?
- Which other variables can be seen to predict burnout and how much variance do they explain?
- Which other variables can be seen to predict compassion fatigue and how much variance do they explain?

7.2 Method

A questionnaire was constructed and made available online from January to June 2012, with paper copies also distributed to relevant wards. The questionnaire contained standardised measures selected to measure burnout, organisational culture, perceived organizational support, compassion fatigue, compassion satisfaction and general health, assessed as anxiety and depression (see 7.2.5 Concepts and 7.2.6 Measures).

7.2.1 Demographics

Demographic information was collected to enable comparison between groups perceived as more vulnerable (see Chapter 4). Therefore data was gathered on

age, gender and experience, assessed as years in nursing and years working with older adults (Tables 7.1 and 7.2).

Participants were also asked if they had care responsibilities outside of work and if they lived with a partner. To preserve anonymity participants were not asked to state their name, names of their ward or care settings. However to enable comparisons between type of organisation, general Trust affiliation was also requested with participants indicating if they worked within an Acute Care Trust, Mental Health Trust or Primary Care Trust.

Table 7.1: Participants' ages and years of experience

	Mean (SD)	Range	Responses available
Age	44.74 (10.12)	21 to 62 years	127
Years in nursing	19.54 (10.43)	8 months to 40 years	127
Years with older adults	16.73 (9.49)	4 months to 40 years	121

7.2.2 Participants

Promotion material specified responses from nursing staff with a patient contact role; with administration staff and management staff not eligible. No exclusions were made according to working hours, with full and part-time staff eligible to take part. The survey was open to all nursing staff including registered nurses, healthcare assistants and nursing auxiliaries. A total of 162 responses were collected (131 online and 31 returned paper surveys) with 129 usable responses and of these 89 were 100% complete. It was not possible to calculate response rates as detailed staff statistics were not available for each participating Trust. Sample demographic information can be found in Tables 7.1 and 7.2.

Table 7.2: Sample demographics

	N	%	Responses available (n)
Gender			127
Male	23	18.11	
Female	104	81.89	
Relationship status:			108
Single	30	27.78	
Married or living with a partner	69	63.89	
In a relationship and living separately	9	8.33	
NHS Trust:			128
Acute Care Trust	41	32.03	
Mental Health Trust	57	44.53	
Primary Care Trust	25	19.53	
Stated other Trust affiliation	5	3.91	
Care responsibilities outside of work:			128
None	56	43.75	
*Yes	72	56.25	
Details of care responsibilities			
Children under 5 years	13		
School-age children	35		
Elderly relatives	13		
Adult offspring	12		
Other	4		
Qualified status			125
Registered nurse	98	76	
Other nursing staff	27	20.9	
Titles of non-registered nurses			
Health care support workers	10		
Health care assistants	11		
Nursing auxiliary	1		
Missing	5		
^Title or grade detailed			129
Registered general nurse	9	6.98	
Community psychiatric nurse	10	7.75	
Health Care assistant	11	8.53	
Staff nurse	18	13.95	
Other	81	62.79	
Band detailed			52
2	9		
3	2		
5	10		
6	18		
7	12		
8	1		

* Including those providing care for all categories (n=1) and for both adult offspring and elderly relatives (n=2).

ˆ For a complete list of all titles used see Appendix A, Table 1.

7.2.3 Procedure

7.2.3.1 Ethical issues

Gaining access After gaining ethical approval from the local NHS Research and Design office, permission was sought from senior nurses and management to approach their staff. Gatekeepers across all settings were provided with copies of the survey and details of data storage arrangements and publicity material (Appendix B). Permission was gained to attend meetings with staff and distribute posters and fliers.

Informed consent Informed consent was gained by a detailed form at the start of all questionnaires. The electronic survey required all points to be ticked before continuing. Consent was assumed by the return of completed paper surveys. The Consent Form stated that questionnaire responses would be stored securely and email addresses provided for the prize draw would be deleted once the winner had been contacted (Appendix C). The limits of confidentiality and rights to withdraw, as detailed in the Information Sheet, were reiterated (Appendix C). For example if staff had used the free-response items to report neglect, abuse or any other incident, the researcher would have be obliged to contact her supervisor for advice and submit all then available information.

Reporting and mitigating distress The surveys closed with a debriefing statement advertising local resources which could be contacted if the questions had resulted in any concerns or distress. When reviewing the collected data

the researcher did not perceive any concerns for staff or patient welfare that warranted reporting.

Data security Responses collected online were only viewable by the researcher and access required a password. Responses were downloaded as a Microsoft Excel file following the end of the survey. Paper copies of the survey were returned by internal post and stored within a locked draw upon arrival. All responses were collated in a password protected and encrypted Excel file. Copies of the dataset were stored in encrypted memory sticks and placed within a locked draw when not in use.

7.2.3.2 Recruitment

Recruitment was two-fold, with approaches made both electronically and in person. The researcher returned to NHS workplaces to give a summary of the qualitative data (Chapter 6) which preceded this study and this opportunity was used to discuss recruitment. The study was advertised by online bulletins distributed to staff employed within each participating Trust.

The adverts provided example questions and topics. For ethical reasons promotion material emphasised the voluntary nature of the study and that participants' names would not be taken. All publicity material provided a link to the online survey (https://www.survey.bris.ac.uk/leicester/nursing) and an email address to request a paper copy or gain further information.

Posters and leaflets were also distributed within each setting and one of the project collaborators, a trainee psychiatrist, distributed questionnaires to potential participants, along with addressed envelopes, enabling responses to returned by internal post. All participants were given the opportunity to enter a prize draw to win a £50 Amazon voucher. The prize was allocated using a random number generator (http://www.random.org/) and distributed by email

to the winning participant.

7.2.4 The survey

The online survey was accessible to participants for six months (January to June 2012) with response rates monitored throughout. To maximise responses participants were offered a choice between online and paper survey. It was felt important that participants could choose how they wished to participate and both methods enabled nurses to participate at a time and location of their choice.

During piloting the survey could be completed in eight minutes, however to allow for different reading speeds completion time was advertised as no more than twenty minutes.

7.2.5 Concepts

The construction of the quantative survey was informed by the semi-structured qualitative interviews conducted with three senior registered nurses (Chapter 6). As described in the Chapter 6, four themes were revealed; *distress and growth, emotional regulation, humanizing patients* and *fluid boundaries*. The following section describes how these themes were explored further using the survey.

7.2.5.1 Distress and growth

The interviews revealed preliminary evidence, suggesting that nurses can experience distress and also intrinsic reward as a result of their caring role. Therefore measures were sought capable of assessing both positive and negative emotional impacts of the caring role.

Burnout Secondary trauma has been criticised for weak theoretical foundation and the existing tools have been criticised for insufficient psychometric rigour (Jenkins and Baird, 2002; Sabin-Farrell and Turpin, 2003). For further details see Chapter 3. In contrast, burnout is a more established construct with a robust gold-standard measure available (Jenkins and Baird, 2002; Schaufeli et al., 2002). The Maslach Burnout Inventory (MBI) was selected as it is capable of assessing distress specifically associated with patient care, via the emotional exhaustion and depersonalisation subscales, and also intrinsic reward, via the personal accomplishment subscale (Maslach et al., 1996). The MBI also provides normative data for different samples of health professional, hereby facilitating comparisons (see section 7.2.6.1).

Secondary trauma Despite concerns about the appropriateness of secondary trauma as a concept and limitations of the available measures it was included in this investigation. The resulting data enabled comparisons with nurses working in other settings and provided justification for further scrutiny of the wellbeing of nurses providing older adult care.

Compassion fatigue has been described as the normal and negative consequences of caring; operationalized as burnout and Secondary Traumatic Stress – STS – (Stamm, 2010). Empirical support is limited and it is currently unclear if compassion fatigue is distinct from other secondary trauma concepts (Sabin-Farrell and Turpin, 2003; Sabo, 2006). The qualitative interviews suggested that distress and reward are not necessarily opposite ends of the same continuum and nurses may experience both. To explore this idea, the survey employed The Professional Quality of Life Compassion and Satisfaction Scale – ProQoL – (Stamm, 2005) as this measure captures both positive and negative consequences of working with distressed or vulnerable groups (Stamm, 2005). The inclusion of the MBI and HADS (as described above and below) helped re-

duce concerns about the quality of the ProQoL, as these two highly validated measures can be used to corroborate any evidence of distress.

General health The literature review (Chapter 4) noted that it was difficult to determine if symptoms of secondary trauma had measurable impact on general health and functioning. Therefore, standardised measure of general health could enable scores of distress and reward (burnout, STS and compassion satisfaction) to be placed in context, hereby providing some indication if high burnout scores, for example, were associated with clinical caseness for depression or anxiety. See Section 7.2.6 for details on the Hospital Anxiety and Depression Scale (HADS).

Empathy It is suggested that understanding patients' needs, concerns and circumstances are integral to all caring and health professions and therefore empathy is arguably a vital skill for effective nursing (Kunyk and Olson, 2001; Thompson et al., 2008). Researchers have claimed that traits deemed desirable in nurses, including care and compassion, are significantly higher in qualified nurses in contrast to control groups of psychology students (Williams et al., 2009). However, it is not clear if individuals possessing these attributes find nursing a more appealing profession, or if nurse training and work experience strengthen these traits.

Empathy within the health service has been defined as the professional's cognitive ability to appreciate the patient's experience and communicate this understanding back to the patient during care (Hojat et al., 2002) and patients appear to respond positively if they perceive that their feelings are understood and appreciated by their nurses (Olson, 1995). Accordingly, empathy has been shown to have a positive relationship with patient outcome, (Fields et al., 2004), with reduced anxiety, anger and depression correlated with higher perceived nurse

empathy (Olson, 1995). This study will not be able to comment on patient outcome, however empathy comparisons have been conducted between registered nurses and Health Care Assistants (HCAs) to explore differences in training (see Section 7.5.1.6, Inter-personal Reactivity Index).

It has been claimed that empathy is vital for an individual to become affected by another's distress (Figley, 1995a), therefore it would follow that nurse empathy will be associated with secondary trauma. This theory was tested using multiple regression (see Section 7.5.4, Explaining compassion fatigue).

The inclusion of empathy was based on a systematic literature search (see Chapter 5) and also interviews with nursing staff. No empirical quantitative support for empathy was revealed, however the interviews suggested that empathy plays an important role. Therefore it was considered important to assess empathy from a nurse-perspective. Kunyk and Olson (2001)'s systematic concept analysis revealed that empathy is understood within the nursing literature to be a multi-dimensional skill relating to communication, caring, professionalism, relationships and an innate ability. Therefore a search was conducted for a tool capable of assessing empathy as multi-dimensional rather than as a single construct (see Section 7.2.6.4).

7.2.5.2 Emotional regulation

The theme of emotional regulation suggested that nurses felt pressure to restrain their own reactions and hide their true feelings. The experiences they described were similar to emotional labour defined by Hochschild (1983) p7 as the "management of feeling to create a publicly observable facial and bodily display". Therefore a review of the literature was conducted to determine a suitable measure.

Emotional labour Few studies have attempted to quantify emotional labour, consequently researchers have employed related concepts, such as emotional dissonance (Bakker and Hueven, 2006; van Gelderen et al., 2007). In addition concern has been expressed about the lack of conceptual and operational clarity (Glomb and Tews, 2004). Without a consensus defining emotional labour it was uncertain if attempting to measure this concept could make a useful contribution to the study. Tools have been developed specifically for assessing emotional labour, for example Brotheridge and Lee (2003) and Glomb and Tews (2004), however these new scales have not been validated for nurses. To strengthen the confidence in the conclusions it was important that selected concepts be clearly defined and measured by psychometrically sound tools. The survey already contained one concept of questionable rigour and therefore the researcher was reluctant to include a second (see 7.2.5.1 Secondary trauma). Additionally, as making the survey longer could deter potential participants, emotional labour was not included.

7.2.5.3 Humanizing patients

This theme described how nurses attempted to understand patients and build relationships. The interviews suggested that this patient-centred approach to care was satisfying, however, some nurses reported that the lack of reciprocity could be draining (see Chapter 6, Qualitative interviews). Emotional exhaustion, one the three dimensions of burnout, refers to a depletion of emotional reserves as a result of a providing support, assistance or sympathy (Maslach et al., 1996). Therefore scores from this MBI sub-scale would be useful for exploring this preliminary evidence of care related exhaustion (see Section 7.2.5.1 Burnout).

7.2.5.4 Fluid boundaries

This theme was used to describe a sense of permeability between work and home with staff finding it difficult to emotionally detach at the end of their shift (see Chapter 6). Research has established links between ruminative thoughts and nurse wellbeing and it was not clear that assessing these variables would make a big contribution to current understanding (Berset et al., 2010; Donahue et al., 2012). As there was concern that extending the length of the survey might reduce responses, this theme was not explored further.

7.2.5.5 Support from colleagues

The general occupational stress literature suggests that social support can have a beneficial impact. Not only has employee absenteeism been negatively associated with perceived social support (Eisenberger et al., 1986; Michie and Williams, 2002), but social support is thought to have a buffering impact upon the effect of potentially stressful experiences with a negative relationship apparent between social support and healthcare costs (Manning et al., 1996). Furthermore, this relationship becomes more salient when individuals are under greater levels of stress (Manning et al., 1996). A review of occupational burnout conducted by Yoder (2001) revealed that support from colleagues has been shown to negatively predict burnout. Furthermore, a meta-analysis by Brewin et al. (2000) determined that lack of social support is a key predictor of PTSD following exposure to a traumatic event. Therefore perceived support within the workplace could potentially moderate nurses' experience of STS and burnout.

7.2.5.6 Organizational culture

The intrinsic values, assumptions and beliefs of a workplace can shape nurses' morale and perceptions about patients (Brown et al., 2008). This phenomenon, known as organisational culture (Scott-Findlay and Estabrooks, 2006), has been found to impact upon many aspects of nursing. A supportive ward culture has been found to be related to nurses' job commitment (Lok and Crawford, 1999), job satisfaction and quality of care administered (Kangas and Kee, 1999). Therefore the quantitative data collection investigated the impact of ward support upon indices of nurse distress.

7.2.5.7 Concepts summary

Therefore this survey assessed nurses' distress, operationalized in the form of emotional exhaustion, depersonalisation and compassion fatigue, and reward, operationalized as compassion satisfaction and personal accomplishment. To place scores in context a general measures of health was used to assess anxiety and depression. The roles of organisational culture, perceived social support, empathy and nurse demographics were also considered. The following section explains the choice of standardised measures.

7.2.6 Measures

The survey was designed to be quick and easy to complete with tools chosen for both statistical rigour and brevity. Only standardised validated measures were selected and in the case of multiple options to measure a concept, the briefest measure was selected.

7.2.6.1 Maslach Burnout Inventory – MBI – Maslach et al. (1996)

The Maslach Burnout Inventory is a 22-item self-report measure and the most widely used tool for determining burnout levels (Schaufeli et al., 2002). In addition the scale has tested favourably for consistency and validity (Schwab, 1993). There are several adaptations for use with different occupational groups and this project employed the Human Services Scale. The relative popularity of this measure enabled comparisons with other published studies. The MBI also provides normative scores for health professionals, enabling the severity of experienced burnout to be established.

7.2.6.2 The Professional Quality of Life Scale – ProQoL-R-V – Stamm (2010)

The Professional Quality of Life Scale was employed to measure secondary trauma and compassion satisfaction aspects of the helping role. The systematic literature search (Chapter 4) revealed the absence of a gold-standard measure. Therefore researchers advised that the chosen secondary trauma measure should comply with the aims of the study (Elswood et al., 2011). This measure was chosen as it enables positive aspects of a caring role to be assessed, using the compassion satisfaction subscale.

The ProQoL is one of the most commonly used secondary trauma measures for nurses, enabling comparisons with other healthcare contexts. It should also be noted that psychometric problems were observed in version III. However according to the test's author, changes between version IV and V are minimal and as a result scores can be compared (Stamm, 2010).

7.2.6.3 The Hospital Anxiety and Depression Scale – HADS – Zigmond and Snaith (1983)

The Hospital Anxiety and Depression Scale is a screening tool, which has also been used to successfully measure symptom severity for anxiety and depression (Bjelland et al., 2002). Other tools assessing health are available; this measure was chosen for its brevity, rigour and extensive use with general and clinical populations (Bjelland et al., 2002). Furthermore, as the HADS has been employed widely, comparisons are possible with other published staff surveys

7.2.6.4 Interpersonal reactivity Index – IRI – Davis (1983)

Researchers have argued that empathy plays a vital role in patient outcomes (Olson, 1995), however empirical support is limited and psychometrically robust tools, specific to health professionals, are scarce (Fields et al., 2004). In response to concerns about tool quality the choice of empathy measure was guided by two systematic literature reviews conducted by Yu and Kirk (2008, 2009). Of the twenty measure employed within nurse research (Yu and Kirk, 2008) quality was typically low and not one was both conceptually and psychometrically satisfactory (Yu and Kirk, 2009).

Therefore in the absence of a gold-standard measure a tool was found to fit the requirements of the survey. The Interpersonal Reactivity Index – IRI – (Davis, 1983) was selected as it is a brief standardized self-report measure which has been used in nursing contexts. This 28-item scale has demonstrated moderate reliability and validity (Yu and Kirk, 2009).

The IRI describes empathy as a multi-dimensional and dispositional experience. This tool comprises of four sub-scales: Personal Distress assesses tendency to become distressed when others are in discomfort, Perspective-Taking measures tendency to routinely consider other's perspectives. The Fantasy Scale measures

one's predisposition to enter fictitious worlds and the Empathic Concern scale assessed tendency to experience sympathy (Davis, 1980, 1983).

7.2.6.5 Organizational Culture Index – OCI – Wallach (1983)

Wallach's Organizational Culture Index determines employee perceptions of their workplace. In a critical review of organizational culture measures in nursing, the OCI was the most brief and robust measure available (Scott-Findlay and Estabrooks, 2006). Using this scale participants rate the organization on a four-point scale, with 24 items to measure the three dimensions of organization culture: bureaucratic, innovative and supportive. According to Wallach (1983), a supportive culture places emphasis on collaborative working and the pertinent values are encouragement and trust. Within an innovative culture risk, change and experimentation and more accepted, and such working environments are likely to be challenging, highly pressured and dynamic. In contrast bureaucratic cultures are hierarchical, power-orientated and procedural (Wallach, 1983).
The OCI has been successfully used as a measure of ward and hospital culture in a comparison study of 26 wards (Lok and Crawford, 1999, 2001) and demonstrated high internal consistency (Lok and Crawford, 2001).

7.2.6.6 The Survey of Perceived Organisational Support – SPOS – Eisenberger et al. (1986)

Many tools are available to measure perceived support within the workplace. The Survey of Perceived Organisational Support was chosen because it is a standardised validated measure employed in over 70 studies (Hutchinson, 1997; Rhoades and Eisenberger, 2002). This tool comprises of 36 items answered using a 7-item Likert scale. However, to shorten completion time this measure has been reduced to 8 high-loading factors, items 4,8,9,13,20,22,23 and 25 (Eisen-

berger et al., 2002). The SPOS has demonstrated high internal consistency (Eisenberger et al., 1986).

7.2.7 Reliability

Internal consistency was established as acceptable to high, with Chronbach's alpha scores approaching .70 or above for all subscales, except the Fantasy Scale and Emotional Concern, as detailed in Table 7.3. Potential weaknesses of the IRI are acknowledged and discussed in Section 7.6.5.1, Choice of Measures.

Table 7.3: Reliability statistics for measures employed in the survey

Measure	Subscale	Cronbach's alpha
MBI	Emotional exhaustion	.867
	Depersonalisation	.623
	Personal accomplishment	.856
ProQol	Compassion satisfaction	.870
	Burnout	.749
	Secondary Traumatic Stress	.730
OCI	Bureaucratic	.714
	Innovative	.656
	Supportive	.876
SPOS		.912
HADS	Anxiety	.828
	Depression	.751
IRI	Fantasy	.530
	Perspective-taking	.641
	Emotional Concern	.388
	Personal distress	.734

7.3 Data analysis

Data was collected online, stored securely online and downloaded as an Excel file, organised in the statistics software package SPSS 18 and prepared for analysis. Items were scored and recoded as follows:

7.3.1 Maslach Burnout Inventory- Human Services Scale (MBI-HSS)

The MBI-HSS was scored on a Likert Scale (Maslach et al., 1996). Each of the twenty-two items has 7 possible responses scored 0 to 6, with the Personal Acomplisment scale reverse scored. The Emotional Exhaustion subscale comprises items 1, 2, 3, 6, 8, 13, 14, 16, 20; Depersonalisation comprises items 5, 10, 11, 15, 22; Personal Accomplishment comprises items 4, 7, 9, 12, 18, 19, 21. Comparisons can be made with normative data available from other human service employees (Maslach et al., 1996).

7.3.2 Professional Quality of Life Scale Revision-V (ProQoL-R-V)

The scale has 30 items in total. Respondents answer using a 6-point Likert scale rating the frequency of experiences (never, rarely, sometimes, often and very often). Items 1, 4, 15, 17 and 29 were reverse coded. The Compassion Satisfaction total was created by totalling scores from items 3, 6, 12, 16, 18, 20, 22, 24, 27 and 30. A Burnout score was calculated by totalling items 1, 4, 8, 10, 15, 17, 19, 21, 26 and 29. To calculate the Secondary Traumatic Stress (STS) score, items 2, 5, 9, 11, 13, 14, 23, 25 and 28 were totalled. Cut-off scores were applied as suggested by the author (Stamm, 2010).

7.3.3 Organisational Culture Index (OCI)

The OCI comprised 24 items, none were reverse coded. To form the Bureaucratic subscale, scores for *hierarchical, procedural, structured, ordered, regulated, established/solid, cautious* and *power-orientated* were totalled. The Innovative subscale was formed by adding scores for *risk taking, results-orientated, creative,*

pressurised, stimulating, challenging, enterprising, and *driving*. The Supportive subscale was formed by adding scores for *collaborative, relationships-orientated, encouraging, sociable, personal freedom, equitable, safe* and *trusting*. Each of these three subscales was divided by eight as per Lok and Crawford (2001)'s procedure, enabling comparison with other samples.

7.3.4 Survey of Percieved Organisational Support (SPOS)

The 16 item short version of the SPOS (Eisenberger et al., 2002) was used and items scored on a Likert scale 1 to 7, with items 2, 3, 5, 6, 9, 12 and 13 reverse coded.

7.3.5 Hospital Anxiety Depression Scale (HADS)

The 14 items from the HADS were scored on a scale of 0 to 3. Items 1, 3, 5, 6, 8, 10, 11 and 13 were reverse scored. A total for Anxiety was created from items 1, 3, 5, 7, 9, 11 and 13. The Depression score was calculated by adding scores from items 2, 4, 6, 8, 10, 12 and 14. Norms were provided (Zigmond and Snaith, 1983; Bjelland et al., 2002), accordingly a score of 0-7 was categorised as normal, 8-10, as borderline and 11-21, suggesting clinical levels of anxiety or depression. According to a review of 747 studies using the HADS, the cut-off value of 8 has been employed by the majority, as an optimal balance between case sensitivity and specificity (Bjelland et al., 2002).

7.3.6 Interpersonal Reactivity Index (IRI)

Scores from the IRI were prepared by reverse coding items 3, 4, 7, 12, 13, 14, 15 and 19. All items were scored on a 5-point Likert scale 0 to 4. A score for the Perspective-taking scale was calculated by adding items 3, 8, 11, 15, 21, 25 and

28, the Fantasy scale, items 1, 5, 7, 12, 16, 23 and 26, the Empathic Concern scale, items 2, 4, 9, 14, 18, 20 and 22 and the Personal Distress scale, items 6, 10, 13, 17, 19, 24 and 27.

7.4 Assumption testing

Multiple regression enables predictions of one continuous dependent variable, such as emotional exhaustion (MBI) using one or more independent variables, such as age and perceived organisational support (SPOS). Five assumptions were tested to ensure that this analysis was suitable given characteristics of the data.

7.4.1 Sample size

Multiple regression requires a sufficiently large sample therefore a priori power calculations should be conducted (Cohen, 1988). The literature was also scrutinised to determine how other studies had calculated sample size. Burtson and Stichler (2010) used the ProQoL in a study of nurses' job satisfaction. This study conducted analyses with a 7-predictor multiple regression model, with alpha set at 0.05, and an assumed medium effect size of 0.15. Their calculations indicated that a sample size of 104 nurses was required for power of 0.80.
Sample size calculations were conducted using the statistical software G-Power (Erdfelder et al., 1996) and verified by an independent statistician (Appendix L). The calculations suggested that two models with 5 and 6 predictors, with alpha set at 0.05, assuming a medium effect size of 0.15 would require a minimum of 85 and 98 participants for power of 0.80. Increasing the sample to 129 and 149 would increase power to 0.95. Responses were collected from 129 participants, however not all completed each scale fully (response was as low

as 100 participants the OCI- Bureaucractic scale) therefore, power of 0.80 was assumed and each multiple regression model was tested with no more than 6 independent variables.

7.4.2 Normality

Kurtosis and skewness values were between -1 and +1 suggesting that the assumption for normality had not been violated (Appendix M, Table 1).

7.4.3 Linearity

Scatter-plots can be used to visual check for a linear relationship between the dependent and independent variables. However, in this survey the variables were assessed using Likert scales which can make the scatter-plots difficult to interpret (for examples see Appendix M Figures 1 and 2). Bivariate correlations were conducted to test for relationships prior to running multiple regression (Appendix H) however, it is possible for variables uncorrelated with the dependent variable to be suitable predictors (Woolley, 1997; Young and Corsun, 2009). Consequently multiple regression models included all predictors suggested by the literature search and qualitative interviews (Chapters 4 and 6).

7.4.4 Homoscedasticity

Histograms and normality plots indicated that variance in the dependent variables (Emotional Exhaustion, Depersonalisation, Personal Accomplishment, Compassion Satisfaction, Compassion Fatigue and Burnout) was consistent and therefore this assumption had been met (see Appendix O).

7.4.5 Absence of multi-collinearity

This test ensures the absence of linear relationships between the independent variables. The Condition Index scores were mostly all below 30, suggesting no existing relationships. However some variables scored above 30, suggesting there might be some collinearity between Personal Accomplishment and Compassion Satisfaction (Appendix P, Table 3); Depersonalisation and Compassion Satisfaction (Appendix P, Table 5); Compassion Satisfaction and two aspects of empathy (as assessed by the IRI), Empathic Concern and Personal Distress (Appendix P, Table 7); STS and Empathic Concern and Personal Distress (Appendix P, Table 9) and burnout (as assessed by the ProQoL) and Empathic Concern and Personal Distress (Appendix P Table 11). The models will be interpreted cautiously as a result of these findings. However the VIF values were lower than 4 or 5 for all independent variables suggesting that collinearity might not be a problem (Appendix P, Tables 2, 4, 6, 8, 10 and 12).

7.5 Results

7.5.1 Descriptive statistics

7.5.1.1 Burnout

Comparisons with normative values for medical professionals (Table 7.4) provided by (Maslach et al., 1996) indicate higher levels of burnout overall. As detailed in Table 7.4, with the exception of the emotional exhaustion aspect, burnout scores were greater than the normative sample by over one standard deviation, suggesting that this sample of nurses were experiencing significantly greater depersonalisation and reduced personal accomplishment.

Grouping respondents according to cut-off points described in the Data Analysis

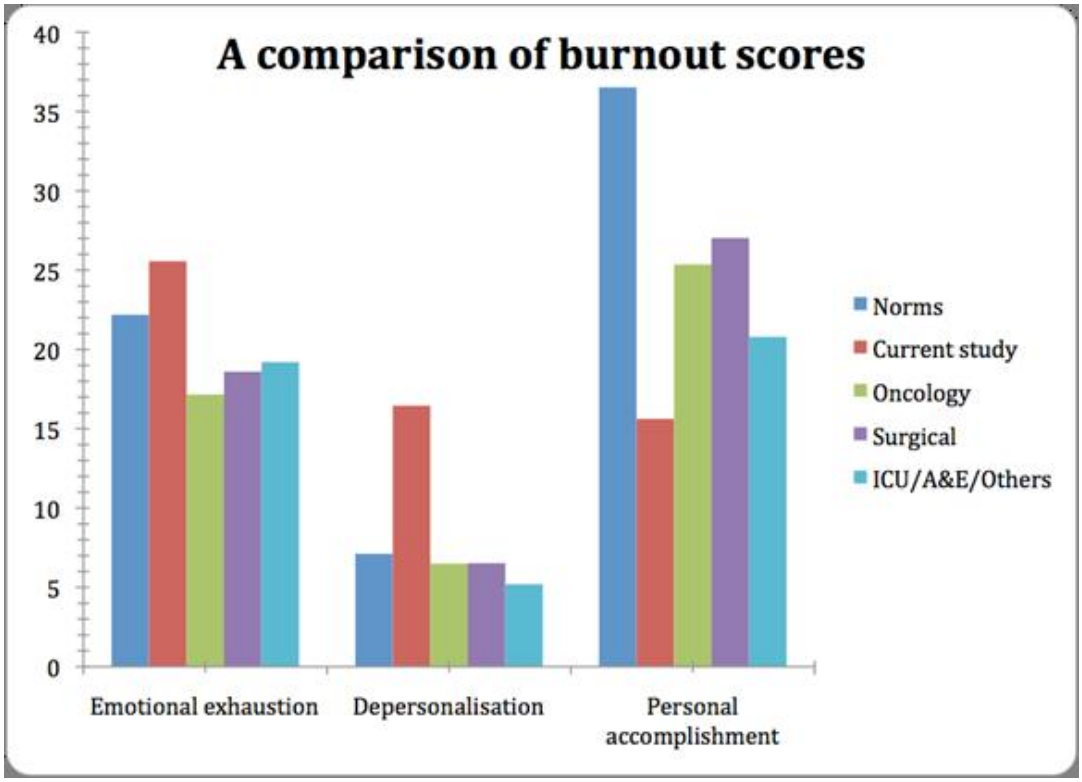
Table 7.4: Descriptive statistics from the Maslach Burnout Inventory- Human Services

MBI scores	N	Minimum	Maximum	Mean	Std. Deviation
Emotional exhaustion					
Current study	127	6.00	45.00	25.57	7.46
Norms from Maslach et al (1996)	1104	------	------	22.19	9.53
Depersonalisation					
Current study	128	1.00	26.00	16.46	4.86
Norms from Maslach et al (1996)	1104	------	------	7.12	5.22
Personal accomplishment					
Current study	128	2.00	34.00	15.63	4.96
Norms from Maslach et al (1996)	1104	------	------	36.53	7.34

section (7.3) revealed that the majority of participants demonstrated high depersonalisation (n=119), average emotional exhaustion (n=57) and a low sense of personal accomplishment (n=127). See also Appendix D, Tables 1, 2 and 3.

Comparing burnout with other samples of nurses Comparisons were made with nurses working in surgery, oncology (Kliszcz et al., 2006) ICU, Accident and Emergency and other hospital settings (Alimoglu and Donmez, 2005) and summarised in Figure 7.1. Emotional exhaustion and depersonalisation were higher and personal accomplishment lower means scores from other nursing contexts and also normative values for healthcare professionals (Maslach et al., 1996).

Figure 7.1: MBI scores from other studies of nurses



7.5.1.2 Compassion fatigue

Burnout, STS and compassion satisfaction were found to be below the mean scores provided by Stamm (2010) as detailed in Table 7.5.

When applying the suggested cut-off values from Stamm (2010) as detailed in Table 7.5, all participants scored low for both burnout (n=110) and STS (n=109) and a majority were also categorised as low for compassion satisfaction (n=79), see Table 7.6.

Comparing compassion fatigue with other samples of nurses Studies employing the same test and providing mean scores were retrieved (See Chapter 4) as according to Stamm (2010) changes between versions R-IV and R-V are minimal and comparison is possible. Figure 7.2 demonstrates how the current scores compared with data from the USA from critical care nurses (Young et al.,

Table 7.5: Descriptive statistics from the Professional Quality of Life Scale

	ProQoL scores				
	N	Minimum	Maximum	Mean	Std. Deviation
Compassion satisfaction					
Current study	111	20.00	50.00	39.62	5.90
Stamm (2010)	1187	----------	----------	50	10
		--	-		
Burnout					
Current study	110	17.00	40.00	28.25	5.31
Stamm (2010)	1187	----------	----------	50	10
		--	-		
STS					
Current study	109	12.00	36.00	20.12	5.03
Stamm (2010)	1187	----------	----------	50	10
		--	-		

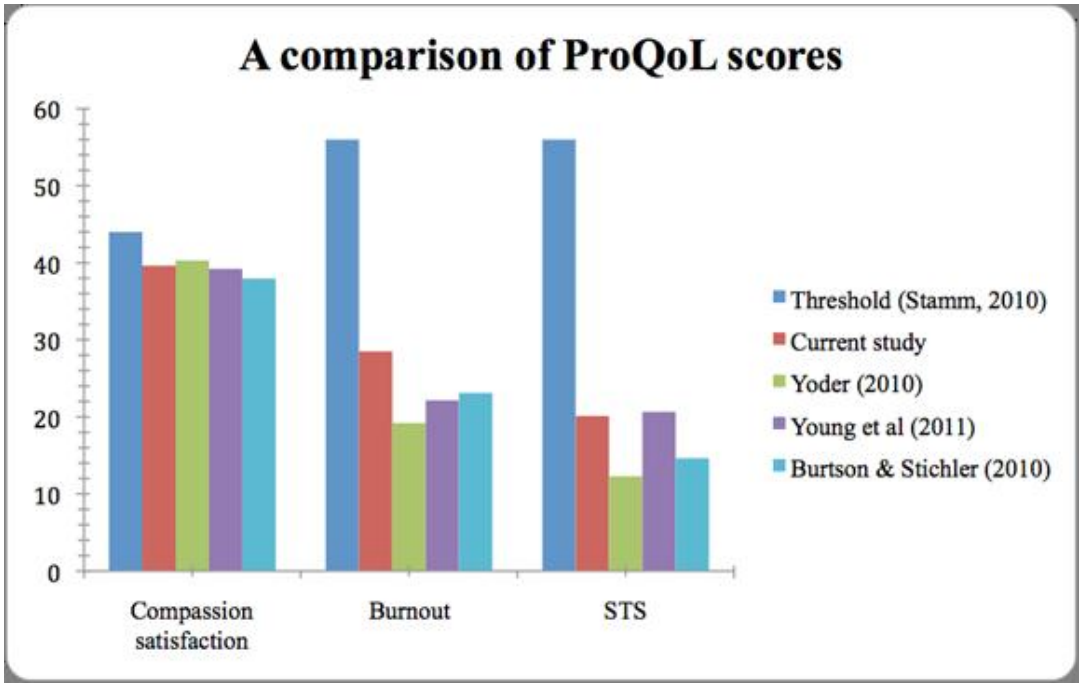
Table 7.6: Burnout scores grouped according to threshold values (Stamm, 2010)

Dimension	Low	Frequency	Average	Frequency	High	Frequency	Missing
Compassion satisfaction	<44	79	44-57	33	>57	0	18
Burnout	<43	110	43-56	0	>56	0	19
STS	<42	109	42-56	0	>56	0	20

2011), medical-surgical, critical care and emergency department data (Burtson and Stichler, 2010), emergency department, home care, intensive care unit, medical-surgical, oncology and progressive care (Yoder, 2010).

Current compassion satisfaction scores were within one standard deviation (5.90) of scores reported in the literature (Burtson and Stichler, 2010; Yoder, 2010; Young et al., 2011) suggesting no significant difference between these scores. Burnout scores from the older adult nurses were above one standard deviation (5.31) of scores reported in the literature. STS scores from the current sample were within one standard deviation (5.03) of scores reported by Young

Figure 7.2: ProQoL scores from other studies of nurses



et al. (2011) suggesting no significant difference between nurses working within critical care.

Figure 7.2 demonstrates that in common with nurse data gathered by three other studies the current scores are below the suggested threshold values from Stamm (2010). Therefore it would appear that these nurses are not experiencing levels of burnout or STS sufficient to be detrimental to their personal or professional functioning. However, compassion satisfaction scores from the older adult nurses were within one standard deviation (5.90) of Stamm's threshold value. Therefore, according to the ProQoL suggested cut-off values as detailed in Table 5, none of the sample were at risk of burnout or STS. However, a majority (61.2%, n=79) were deemed at risk of low compassion satisfaction.

7.5.1.3 Organisational culture

Mean scores for each subscale indicate that respondents perceived their organisation to be more bureaucratic than innovative and supportive items received the least agreement (Table 7.7). This is to be expected as hospital environments have been described as hierarchical and conservative workplaces (Lok and Crawford, 2001).

Table 7.7: Descriptive statistics from the Organisational Culture Index

	N	Min	Max	Mean (SD)
Bureaucratic	100	12	31	23.78 (4.28)
Innovative	101	11	32	21.15 (4.03)
Supportive	103	8	32	17.90 (5.50)

Each subscale's mean was divided by eight as per Lok and Crawford (2001)'s procedure. The item with the highest score is considered to be the dominant attitude within the organisation (Scott-Findlay and Estabrooks, 2006). Adjectives rated most highly are as follows: *Results-orientated* (Mean score=3.41), *pressurised* (M=3.36), *procedural* (M=3.32). The three least rated adjectives: *personal freedom* (M=2.02), *relationships-orientated* (M=2.02) and *risk-taking* (M=2.02). For a complete list see Appendix F.

Comparing organisational culture with other studies Lok et al. (2005) explored the impact of subculture on nurse commitment by asking participations to complete the OCI twice, rating items according to perceptions of the hospital and then the ward. The findings indicated that in common with the current study, Bureaucratic culture was the most dominant dimension. However differences were detected between ward and hospital culture (Table 7.8);

the implications are explored in the Discussion.

Table 7.8: Descriptive data from the OCI comparing Lok et al. (2005) with the current study

	N	Mean hospital culture (SD)	Mean ward culture (SD)	Current study (SD)
Bureaucratic	100	2.81 (0.55)	1.92 (0.48)	2.97 (0.53)
Innovative	101	1.70 (0.49)	1.74 (0.46)	2.64 (0.50)
Supportive	103	1.53(0.58)	1.95 (0.56)	2.24 (0.69)

7.5.1.4 Perceived organisational support (SPOS)

Higher scores indicate that organisational support is perceived more positively. Threshold scores are not provided however, these scores have demonstrated similarity with other samples of nurses (Ng and Sarris, 2009).

Normative data is not currently available however Ng and Sarris (2009) collected data from nurses working within an Australian hospital and mean scores were within one standard deviation of the current study, suggesting similar perceptions of support (Table 7.9).

Table 7.9: Descriptive statistics from the Scale of Perceived Organisational Support

	N	Min	Max	Mean(SD)
Current study	116	15.00	92.00	52.91 (16.76)
Ng & Sarris (2009)	103			46.95 (11.87)

7.5.1.5 Hospital Anxiety Depression Scale (HADS)

Mean scores suggest that participants demonstrated greater anxiety than depression. Mean scores for anxiety and depression did not reach the range sug-

gesting clinical caseness (See Tables 7.10 and 7.11). Two threshold scores have been applied when interpreting the HADS (see Section 7.3). The more commonly applied threshold value of eight suggests that the majority of the nurses demonstrated abnormal levels of anxiety.

Table 7.10: Categorising HADS findings

	Frequency within normal range	Frequency exceeding normal range
Anxiety		
Threshold score of 8	35 (33%)	71 (67%)
Threshold score of 11	68 (64.2%)	38 (35.8%)
Depression		
Threshold score of 8	76 (71%)	31 (29%)
Threshold score of 11	100 (93.5%)	7 (6.5%)

Comparing HADS data with other samples Comparisons with other studies suggest that this sample demonstrated greater anxiety and depression when both threshold scores were applied (Table 7.11).

7.5.1.6 Inter-Personal Reactivity Index (IRI)

The IRI sub-scales of Perspective-Taking, Empathic Concern and Personal Distress were similar to other nurse data (Kliszcz et al., 2006) and norms for females in the general population (Davis, 1980), as detailed in Table 7.12. Only the Fantasy Scale was more than one standard deviation from the normative scores.

Table 7.11: Descriptive statistics from the HADS

	Study	N	Min	Max	Mean (SD)	Proportion exceeding threshold score of: 11	8
Anxiety	Bennett et al (2001) Nurses 2 teaching hospitals Large NHS acute Trust UK	106	0	21	5.24 (4.09)	14.0%	37.0%
	Mealer et al (2007) Nurses Intensive Care Units 3 hospitals USA	140	-----	-----	------	-------	20%
	Quine (2001) All staff Community NHS Trust UK	1079	-----	-----	6.80 (4)	-------	-------
	Current study	**106**	**5**	**19**	**10.49 (3.67)**	**35.8%**	**67%**
Depression	Bennett et al (2001)	106	0	21	6.45 (3.93)	10%	19%
	Mealer et al (2007)	140	-----	-----	------	-----	26%
	Quine (2001)	1078	-----	-----	3.90 (3.30)	-------	-------
	Current study	**107**	**3**	**13**	**6.79 (2.83)**	**6.5%**	**29%**

Table 7.12: Descriptive statistics from the IRI

Sample	Means (SD)			
	Perspective taking	Fantasy Scale	Empathic Concern	Personal Distress
Current study, n=111, UK nurses	19.71 (4.31)	12.27 (5.06)	19.73 (3.17)	9.20 (5.28)
Norms for females, n=582 (Davis, 1980)	17.96 (4.85)	18.75 (5.17)	21.67 (3.83)	12.67 (3.83)
Kliszcz et. al (2006) nurses, n=76 Poland	20.92 (3.60)	17.91 (4.08)	20.99 (3.40)	18.78 (4.08)

Comparisons were conducted between registered nurses and Health Care Assistants (HCAs). No significant differences were detected for any of the sub-scales (Appendix K, Table 4).

7.5.2 Differences between groups

Mean scores from the HADS, MBI and ProQoL were compared to assess the potential impact of demographics, Trust affiliation, and relationship status and care responsibilities outside the workplace on nurse wellbeing.

7.5.2.1 Gender

No significant differences were observed between males and females for emotional exhaustion, depersonalisation, personal accomplishment, anxiety and depression, according to scores on the MBI and HADS (Appendix J, Tables 1 and 2). However a comparison of ProQoL scores revealed significantly higher compassion satisfaction in females 40.30 (SD=5.6) compared with 37.52 (SD=7.10) in males, $t(107)$=-2.056, p=.042. No significant differences were observed for burnout or STS (Appendix J, Table 3).

7.5.2.2 NHS Trust affiliation

No significant differences were observed between Acute, Mental Health and Primary Care Trust participants (Appendix K, Table 5).

7.5.2.3 Nurse status

No significant differences were observed between registered and non-registered nurses (Appendix K, Table 1).

7.5.2.4 Relationship status

No significant differences were observed between participants in relationships with those reported as single (Appendix K, Table 2).

7.5.2.5 Care responsibilities

No significant differences were observed for any of the measures between participants with declared care responsibilities at home and those without (Appendix K, Table 3).

7.5.2.6 Experience

To compare differences between more and less experienced staff the median number of years in nursing (20) and working with older adults (17) were used to split these groups. No significant differences were observed according to years in nursing (Appendix K, Table 7) and years working with older adults (Appendix K, Table 8).

7.5.2.7 Age

Participants were split into older and younger categories using the median value of 47 years. Anxiety was significantly higher in younger staff $t(102)=2.161$,

p=.033). No other significant differences were observed (Appendix K, Table 6).

7.5.3 Multiple regression

Correlations were tested between the dependent variables and independent variables. Step-wise multiple regression was employed to test predictive relationships between the dependent variables and suggested predictors from the literature and interviews. This method of multiple regression was chosen as it is capable or revealing the individual contribution of the predictor variables. To conform with assumptions about statistical power, (see Section 7.4.1, Sample size), multiple regression models were limited to six independent variables. The Organisational Model, explored the impact of organisational culture and perceptions about the workplace support. It contained the three subscales from the OCI (Bureaucratic, Innovative and Supportive), compassion satisfaction, age and the SPOS. The Empathy Model explored the impact of empathy and contained the four empathy dimensions from the IRI (Personal Distress, Empathic Concern, Fantasy scale and Perspective-taking) and years of experience.

7.5.3.1 Personal accomplishment

Personal Accomplishment was significantly and positively correlated with Innovative Organisational Culture (r=.260, p=.009, n=100) and compassion satisfaction (r=.424, p<.001, n=110). See Appendix H, Table 1. In the Organisational Model, Compassion Satisfaction significantly predicted Personal Accomplishment, explaining 6.5% of the variance (R^2 =.065, F(1)=6.255, p=.014). For excluded variables see Appendix H, Table 12.

The Empathy Model did not meet requirements to run step-wise regression and the standard entry method did not produce a significant model (Appendix H, Table 13).

7.5.3.2 Emotional exhaustion

Emotional exhaustion was not significantly correlated with any suggested predictors (Appendix H, Table 1). The Organisational Model revealed that perceived organisational support (SPOS) and Compassion Satisfaction (ProQol) explained 9.8 % of the variance (R^2=.098, F(1)=4.847, p=.010). Perceived organisational support made a larger unique contribution, explaining 5.5% of the variance in emotional exhaustion (R^2=.055, F(1)= 5.197, p=.025). For excluded predictors see Appendix H, Table 6).

The Empathy Model did not meet requirements to run step-wise regression and the standard entry method did not produce a significant model (Appendix H, Table 7).

7.5.3.3 Depersonalisation

Depersonalisation was significantly positively correlated with compassion satisfaction (r=.229, p=.016, n=110) yet none of the other variables reached significance (see Appendix H, Table 1). Of the variables included in the Organisational Model, Compassion Satisfaction and Supportive Organisational Culture significantly predicted Depersonalisation, together explaining 20.5% of the variance (R^2=.205, F(2)=11.612, p <.001). Compassion Satisfaction alone explained 15.6% (R^2=.156, F (1) =16.793, p <.001). For excluded variables see Appendix H, Table 18.

The Empathy Model did not meet requirements to run step-wise regression and the standard entry method did not produce a significant model (Appendix H, Table 19).

7.5.4 Explaining compassion fatigue (ProQoL)

7.5.4.1 The burnout scale (ProQoL)

Unlike the ProQol, the Maslach Burnout Inventory (MBI) has established validity and reliability and it also provides a clearer conceptualisation of burnout (Schaufeli et al., 2002). Therefore, it could be argued that repeating the analyses with a weaker tool would not make a useful contribution. Therefore the ProQoL burnout scale was not included in the multiple regression models.

7.5.4.2 The STS scale (ProQoL)

Significant associations were found between the two sub-scales of the Interpersonal Reactivity Index (IRI); Fantasy Scale (r=.220, n=107, p=.023) and Personal Distress (r= .365, n=108, p <.001). Compassion satisfaction (r= -.235, n=109, p=.014) and age (r= -.225, n=107, p=.009) were also significantly associated with STS (Appendix I, Table 1).

The Organisational Model revealed that Compassion Satisfaction predicted 6.5% of variance in STS (R^2=.065, F (1) =6.356, p =.013). For excluded variables see Appendix I, Table 11.

The Empathy Model revealed that one aspect of empathy from the IRI was a significant predictor. Personal Distress explained 11.8% of variance in STS (R^2=.118, F (1) =12.528, p =.001).

7.5.4.3 The Compassion Satisfaction scale (ProQoL)

Compassion satisfaction has already been included as a predictor variable within the Organisational Model and therefore will not be used as a dependent variable.

7.6 Discussion

This section will summarise the findings and explain how the survey's aims have been fulfilled (Section 7.1.2, Survey aims). The Discussion also highlights remaining questions and debates to be continued in the next and final chapter (Chapter 8, Conclusions).

7.6.1 Prevalence of distress

Overall burnout prevalence was high with over 90% of staff experiencing depersonalisation and reduced personal accomplishment. Comparisons with MBI normative values (Maslach et al., 1996) indicated that these two dimensions were high, yet emotional exhaustion was within the expected range for healthcare professionals. Burnout has been associated with detrimental consequences for the organisation, patients and employees, including staff turnover, ill health and reduced empathy (Maslach et al., 2001; Vahey et al., 2004; Leiter, 2005). Therefore, it is vital that the high levels of depersonalisation and low personal accomplishment are addressed. Therefore, the Conclusions Chapter provides suggestions of how burnout can be prevented and managed.

The HADS suggested that the majority of respondents experienced anxiety exceeding normal levels. It should be noted that extreme scores may be the result of sampling bias (see Section 7.6.5, Limitations). Yet even if these scores are not representative, they suggest that a large number of employees were experiencing levels of anxiety associated with clinical caseness and significant distress (Bjelland et al., 2002). The Conclusions Chapter (8) suggests applications of these findings.

Mean STS and burnout scores were all below the threshold values provided by Stamm (2010). Overall these findings would suggest that unlike STS, anxiety

and burnout are significant problems. However it is possible that the ProQoL is not sufficiently sensitive (see 7.6.5, Limitations).

7.6.2 Explanations of burnout (MBI)

7.6.2.1 Depersonalisation

Compassion Satisfaction (ProQoL) and supportive organisational culture (SPOS) significantly predicted Depersonalisation. Supportive organisational culture was negatively associated suggesting that staff who perceived their organisation to be more supportive felt less distanced and cynical towards patients. The implications are explored within the Conclusion.

In this model compassion satisfaction made the larger unique contribution. These variables were also positively correlated, suggesting that staff who experience greater reward in their role, also feel more distanced from those in receipt of their care. However, the multiple regression model may have been compromised by an existing relationship between these two independent variables (see Section 7.4, Assumption testing). Ideally multiple regression should include variables which highly correlate with the dependent variable, yet show minimal correlation with one another (Aiken et al., 1991). Multi-collinearity can indicate that two independent variables are actually assessing the same experience and therefore one variable is redundant. Although, this is unlikely with such conceptually different variables, further clarification would require tests of concurrent and discriminant validity between the MBI and ProQoL.

Due to multi-collinearity, variance explained by compassion satisfaction may be less precise (Aiken et al., 1991). However despite doubts over the precise predictive relationship, measures revealed evidence of problematic distress, as compassion satisfaction was low and depersonalisation was very high. In the Conclusion I consider how this knowledge could be applied to assist nursing

staff.

7.6.2.2 Personal accomplishment

Personal accomplishment was predicted by compassion satisfaction. However, this predictive relationship may be the result of an existing relationship between the variables (see Section 7.4.5, Absence of Multi-collinearity). This is not unexpected as these variables are conceptually very similar, for example Compassion Satisfaction and Personal Accomplishment both assess reward in professionals performing a human-service role requiring emotional engagement. Moreover it is possible that they are tapping the same experience.

7.6.2.3 Emotional exhaustion

Perceived organisational support (SPOS) and compassion satisfaction significantly predicted Emotional Exhaustion. Researchers have argued that support can reduce the impact of workplace burdens (Manning et al., 1996). Therefore it may be that experiencing a greater sense of reward would be negatively associated with feeling emotionally drained. However, Emotional Exhaustion was positively associated with Compassion Satisfaction (this correlation did not reach significance). Unlike the predictive relationship between Compassion Satisfaction and Depersonalisation, for the Emotional Exhaustion model multicollinearity was not a concern. This finding is important as it supports the tentative theory that staff can experience both reward and distress as a result of inter-personal engagement (Stamm, 2010). The Conclusions chapter suggests explanations and applications of this finding.

This model also suggests that perceptions of greater support within the workplace could have a remedial impact on sources of distress (Manning et al., 1996; Yoder, 2001). The implications of these findings are explored further in the

Conclusion (Chapter 8).

7.6.3 Explanations of STS

Secondary Traumatic Stress (ProQol) was significantly predicted by the Personal Distress scale from the Inter-personal Reactivity Index (IRI). The IRI was selected to measure dimensions of empathy. However, it is important to note that these two variables are conceptually very similar and collinearity diagnostics suggest they are tapping the same experience (see Section 7.4.5). Therefore from this result it cannot be assumed that empathy predicts secondary trauma.

7.6.4 Other results

Variables significantly associated with burnout included Innovative Occupational Culture and Compassion Satisfaction. Demographic factors such as registration status, years of experience and relationship status were not associated with any measure of distress. However anxiety was higher in younger staff. No differences were detected between males and females or staff working for different NHS Trusts. The practical and theoretical implications of these findings will be explored in the Conclusion Chapter.

7.6.5 Limitations

7.6.5.1 Choice of measures

This study aimed to assess the potential impact of severable variables without survey length discouraging participation and increasing incomplete responses. Therefore when choosing measures, a balance was sought between conceptualisation, rigour and ease of administration. Ideally measures would be brief, highly validated and associated with a clear and definitive conceptualisation.

Normative values would also be available from other samples of nurses to assist interpretation. The measures chosen were the best fit for the survey's requirements and each has potential weaknesses.

ProQoL According to threshold values suggested by Stamm (2010) no staff were at risk of burnout or STS, suggesting that the caring role was not having a detrimental impact on wellbeing. However scores from the HADS, employed as a general measure of health, would suggest that a majority of the sample reported anxiety levels worthy of further investigation or intervention. Moreover scores from the MBI revealed high levels of burnout across the personal accomplishment and depersonalisation dimensions. Therefore there is doubt over the sensitively of the ProQoL.

It could be argued that Stamm's threshold scores could leave significant distress undetected and accordingly these scores should be lowered. However the administration manual states that these threshold values are generous, leading to vulnerability for Type 1 error, or false positives (Stamm, 2010). Therefore it would appear that the ProQoL may not be sufficiently sensitive for measuring the experiences of this sample. In addition, items refer to trauma, without providing a definition. Therefore participants may assume this applies to trauma medicine, rather than experiences based on Criterion A from the DSM for PTSD (American Psychiatric Association (2000), see Chapter 3). Consequently due to misunderstandings, this measure may not accurately reflect participants' experiences. This tool has been employed extensively within the literature and a systematic review revealed that it was the most frequently used tool for assessing secondary trauma in nurses. Therefore is an urgent need for peer-reviewed and independent tests of validity, sensitivity and reliability, as the continued use may mistakenly suggest that nurses are not experiencing significant distress.

Empathy Empathy has been perceived as integral to patient care, however, some argue that it exacerbates vulnerability to distress and specifically secondary trauma (Figley, 1995a; Stamm, 2010). Therefore it is important to investigate a variable theoretically linked with nurse health and empirically associated with patient distress and health outcomes (Olson, 1995).

An obvious gold-standard empathy tool was not available. Systematic reviews by Yu and Kirk (2008, 2009) determined that empathy in nurses has been perceived as multi-dimensional comprising cognitive, moral, behavioural and emotional factors and currently no tool assesses all these domains. The Interpersonal Reactivity Index (IRI) was designed for the general population, not nurses, and therefore some items may be less useful for assessing nurses' experiences. For example, item 6 asks participants to rate how much they agree or disagree with the statement: In emergency situations, I feel apprehensive and ill-at-ease. This measure does not consider how trained professionals may feel more competent in emergency situations that the general public. Future research should employ a more occupationally appropriate tool.

Concerns about absence of a definitive measure could be countered by including several tools. The current study did not include more than one measure, as investigating empathy was not the sole aim. However, future research could employ the Hogan Empathy Scale (Hogan, 1969) which taps three domains of empathy, cognitive and moral. This 64-item self-report measure has been used in nurse research demonstrated moderate to high reliability and validity (Yu and Kirk, 2009) and quick administration (Reynolds and Presly, 1988). A measure designed for nurses could also be included, such as the highly appraised Empathy Construct Rating Scale (La Monica, 1981; Yu and Kirk, 2009). This measure taps cognitive and behavioural empathy using self, patient and peer-ratings. Hereby enabling data triangulation and providing an indication of how patients

appraise empathy (Yu and Kirk, 2009). This measure would be able to test correlations between patient-perceived empathy and nurse-expressed empathy, and potentially corroborate Olson's significant negative relationship between nurse empathy and patient distress (Olson, 1995). A discussion of empathy continues in the Conclusion.

Organisational culture This survey employed the Organisational Culture Index (OCI) to assess the implicit and explicit norms and attitudes within the organisation. However, it is not clear if participants shared the same definition of "the organisation". Future research could also ask participants if their answers reflected their hospital, their Trust, or the NHS as a whole.
Additionally, this measure did not assess organisational sub-cultures, important values associated with smaller units within the organisation, such as teams or wards. Organisational sub-culture may be in agreement, or disagreement with the larger culture, yet sub-culture may play a more important role in staff retention (Lok et al., 2005). Lok et al. (2005) assessed both occupational sub-cultures of individual wards and the larger organisational culture of the hospital using the OCI. Multiple regression analyses determined that perceptions of wards as innovative or supportive had a greater association with nurses' organisational commitment than innovative or supportive hospital culture. Therefore the impact of sub-cultures should be explored further, as argued in the Conclusion (Chapter 8).

7.6.5.2 Recruitment

The survey was advertised on Trust newsletters and publicity material distributed within relevant wards. However, as participation was anonymous it is not possible to verify if the desired sample was recruited. The survey asked participants to indicate years of experience with older adults and therefore pro-

vided participants answered this question honestly it can be assumed that the sample were indeed nurses working with older adults. Commonly older adults refers to individuals aged over 65 years, however a definition was not provided. Participation was not restricted to staff with a certain level of experience, however no significant differences were detected between age groups and experience did not predict any of the outcome measures.

Participation was voluntary and the sample was not randomly selected. As discussed in a Chapter 4 voluntary surveys may be subject to response bias, with those experiencing significant distress less likely to participate, this is known as the healthy worker effect (de Boer et al., 2011). The current study revealed high prevalence of anxiety and burnout, therefore if these participants represent the less distressed staff, this finding would be very concerning indeed. However, publicity material advertised the survey as an opportunity to express opinions. Therefore response may have been biased towards those feeling particularly disillusioned, potentially seeking an opportunity to give feedback, or effect change. Staff might have perceived the survey as an opportunity to argue against the negative media coverage and the poor image of older adult care. For example the Royal College of Nurses issued a report critical of older adult care provision on March 20th 2012 (Royal College of Nurses, 2012). Longitudinal data could have assessed any distress over a longer period and removed concerns about impact of current negative media scrutiny (see Section 4.6.4).

As this sample is not statistical representative it cannot be argued that anxiety, depersonalisation and low personal accomplishment are widespread in the three participating Trusts. Yet even if these high scores represent an extreme minority they still suggest anxiety and/or burnout are significant problems for nearly 100 employees. The Conclusions Chapter discusses how these concerns could be addressed.

Chapter 8

Conclusions

8.1 Introduction

This explorative project established qualitative and quantitative evidence that nurses providing older adult care are vulnerable to potentially clinical levels of anxiety, and also burnout, a specific form of occupational stress associated with inter-personal engagement. This chapter suggests how these findings could be applied within occupational policy and future research.

8.1.1 Thesis aims

This thesis added to the growing body of evidence for nurse distress associated with patient engagement. Within the published literature the concepts of secondary trauma and burnout have been the subject of much debate and commentary, as discussed within Chapter 4. However, nurses working with older adults do remain understudied. Yet this thesis revealed that in comparison with normative values and scores from nurses working within other contexts and with other patient groups, the current sample demonstrated high levels of burnout. The implications of this finding will be discussed, and in addition this chapter

demonstrates that the three aims of the thesis detailed in Chapter 1 have been fulfilled:

1. Semi-structured interviews explored sources of distress and reward for nurses working with older adults.

2. The systematic literature review determined suitable tools for quantifying these sources of distress and reward.

3. The quantitative survey explored potential risk factors and sources of resilience in order to inform further study and occupational policy.

8.1.2 The mixed-methods approach

8.1.2.1 Design

This thesis adopted a mixed methods approach rather than multi-methods, employing two different approaches to reach one goal. This fusion of qualitative and quantitative strategies enabled a more complete understanding of nurse experiences. As argued in Chapter 5, due to a lack of conceptual clarity a single data collection strategy would not have been appropriate. There was a concern that a standardised psychometric tool could only tap known aspects of the phenomena and a purely qualitative strategy would not enable prevalence, magnitude or predictive relationships to be established, hereby limiting the practical applications of the findings. Therefore, due to the many unverified assumptions within this research area it was vital that data collection was both participant-informed and able to yield credible findings. Accordingly, both qualitative and quantitative data were collected throughout.

Research began with a scoping review which revealed both quantitative and qualitative evidence of secondary trauma, as described in Chapter 4. The retrieved qualitative studies were evaluated for suitability and used to inform the

design of a suitable strategy for exploring secondary trauma from the perspective of the nurse. Articles meeting the more stringent inclusion criteria of the refined literature review were used to suggest approaches for collecting quantitative data. Therefore, data collection was informed by previous qualitative and quantitative studies.

The goals of the project were also informed and substantiated by this mixed-methods approach using data from the review and also the interviews. For example, qualitative evidence from the systematic review suggested that empathy played a vital role in the experience of secondary trauma. This suggestion was explored by testing predictive relationships between empathy scores and measures of nurse distress. Additionally, as described in Chapter 6, the credibility of the interview analyses and findings was verified by presenting a summary and collecting both qualitative and quantitative feedback from relevant staff, see 6.5.7 Credibility and Appendix Q. The interview themes and staff feedback were then applied in conjunction with the conclusions from the systematic literature review to choose relevant and useful psychometric tools. Therefore, both qualitative and quantitative approaches were used to inform the design and analysis of this PhD.

8.1.3 Results summary

8.1.3.1 The literature review

The systematic literature search provided current understanding of secondary trauma in nurses. Associated variables included staff demographics, working environment, shift-pattern, exposure to trauma and nursing experience. Many different measurement tools were applied, consequently it was not possible to establish consensus on prevalence or risk factors. The review suggested variables warranting further study, including empathy and social support. It also revealed

that certain care contexts received limited research scrutiny and currently no quantitative studies had included staff providing older adult care.

8.1.3.2 Interviews

Interviews with senior nurses provided preliminary evidence of distress and reward associated with patient engagement. However, contact with distressed and vulnerable patients was not consistently associated with distress. Moreover staff did not report reactions indicative of PTSD, such as avoidance of distressing reminders, or intrusive flashbacks (See Figure 3.1 in Chapter 3, for APA diagnostic criteria).

Therefore, the interviews suggested that burnout would be would be a better explanation for nurse distress than secondary trauma. Therefore, the survey included the MBI in addition to the ProQoL, enabling prevalence for burnout to be compared against incidence of secondary trauma. The interviews also suggested that perceptions of workplace support should be investigated.

8.1.3.3 Survey

Standardised measures enabled comparisons between different nursing samples and also normative values. It was revealed that burnout and secondary trauma in nurses working with older adults was comparable to other samples, including oncology, surgery and critical care (Yoder, 2010; Young et al., 2011).

Nurses have faced negative media scrutiny and specifically some publications have criticised the shift in training to a more academic nursing degree. Gillet (2012) summarised recent nurse stereotypes as "too clever to care", with nurse training blamed for eroding compassion and empathy. However, the survey contrasted registered nurses, qualified to at least degree level, with Health Care Assistants, not required to hold advanced qualifications. Tests revealed no

significant differences according to any of the empathy dimensions. This claim could be used to refute media criticism of the more academic model of nurse training.

8.1.4 Relating the qualitative and quantitative conclusions

This section describes how the research aims were addressed by collecting and collating both qualitative and quantitative evidence. Qualitative data from the systematic literature review suggested the following potential predictors for secondary trauma: empathy, staff experience, patient contact and patient characteristics. However, the quantitative literature had not examined all of these factors, providing a rationale for further study. The systematic search did however reveal that associations have been found for several variables including patient contact, engagement, ward characteristics and age. However, the evidence from the literature was not consistent and variables may have been overlooked due to differing measurement tools, designs and interview strategies. Therefore, the qualitative and quantitative data from the systematic reviews suggested that staff demographics, working environment, experience and exposure should be assessed more thoroughly.

These suggestions were further explored using qualitative interviews. Findings suggested that work place culture and expectations could potentially moderate health behaviours, such as working beyond shift boundaries and discussing concerns with colleagues. Accordingly workplace culture could potentially influence staff vulnerability to distress. The interview results were used to guide the choice of quantitative tools. Data from the resulting survey revealed that, with the exception of age, staff characteristics were not predictive of any form of measured distress. In contrast, perceptions about the workplace appeared

more important, as verified by the multiple regression models. Therefore, these findings challenge the assumption that secondary trauma results from excessive empathy (see Theoretical implications 8.1.3). Moreover, without the interviews it is possible that the important explanatory variables of organisational culture and perceived support could have been overlooked. Consequently, the application of both qualitative and quantitative methods enabled this thesis to more thoroughly explore the experiences nurses providing older adult care and challenge assumptions about the experience of secondary trauma.

8.1.5 Theoretical implications

8.1.5.1 Empathy as an explanation for secondary trauma

Theoretical explanations for distress, burnout and PTSD do not include empathy, however some researchers suggest that empathic engagement can lead to secondary trauma (Figley, 1995b). This suggestion has received support within the published qualitative literature (e.g. Jonsson and Halabi (2006) and also the interviews described in Chapter 6). Yet within the systematic literature review no quantitative studies tested empathy as a predictor of distress (Chapter 4). Although empathy is a frequent topic within nursing literature and secondary trauma commentary, as yet there is no empirical support for empathy as a risk factor.

Empathy has been considered a vital skill for effective nursing, which educators and managers are keen to encourage (Lelorain et al., 2012). Accordingly, if it is ever established as exacerbating staff vulnerability, nursing ideology and teaching would require revision (Cunico et al., 2012). The survey revealed that empathy facets according to the IRI (Davis, 1980, 1983) did not predict burnout. Additionally the predictive relationship between STS and the Personal Distress scale was likely due to multi-collinearity, with two variables tapping the

same experience (Chapter 7). Therefore this study did not reveal conclusive quantitative evidence for empathy predicting distress in the form of secondary trauma or burnout.

However, the lack of quantitative support might be due to differing conceptualisations. Empathy has received many definitions and lacks a unifying concept or measure (Yu and Kirk, 2008, 2009). The quantitative survey tested dispositional empathy, which is a tendency for understanding other's perspectives, experiencing distress when witnessing their pain, ability to imagine fictitious worlds and tendency to experience sympathy and compassion (Davis, 1980, 1983). Yu and Kirk (2009) determined four domains of empathy; with the IRI assessing cognitive and emotional empathy. Exploration of empathy is limited as no tool currently assesses all domains, therefore, it is currently not possible to rule out empathy as a predictive variable.

8.1.5.2 Explanations for nurse distress

The interviews revealed tentative evidence of trauma symptoms, however they suggested burnout as a better fitting explanation. The survey provided support with high prevalence of burnout and no staff exceeding threshold scores for STS. Therefore it is suggested that empirical support for secondary trauma in nurses remains weak and burnout provides a useful and more relevant conceptualisation.

The predictive models suggest that organisational traits play a greater contributory role in burnout than patient contact. Experience was not a predictor, yet perceived organisational support and organisational culture could explain burnout. To investigate this suggestion further, a future survey could assess staff to patient ratios and direct patient-contact hours. Qualitative interviews and open-ended survey items could also ask staff about factors beneficial or

detrimental to nurse wellbeing.

8.1.6 Clinical recommendations

A systematic literature review of burnout interventions for staff providing care within older adult settings did not reveal an optimal strategy (Westermann et al., 2013). However, it is suggested that many initiatives fail due to poor participation and limited support from management (Westermann et al., 2013). Moreover, the NHS has many existing strategies for the prevention and management of occupational stress. However, strategies such as clinical supervision are under-utilised (Mackereth et al., 2005). Therefore the following clinical recommendations will build upon existing resources and suggest how current policies could be tailored in light of the research findings.

8.1.6.1 Anxiety

The literature suggested nurse age as a potential risk factor for secondary trauma, however multiple regression models established that this was not a significant predictor. In contrast, anxiety was found to be higher in younger staff, suggesting greater vulnerability in this cohort. Experience and exposure can be ruled out as explanations for differences in anxiety, as no associations were found between HADS scores for years working with older adults and years working as a nurse. Furthermore, tests of significant differences suggest that relationship status and care responsibilities were also not accounting for this association. The current study did not seek to explain anxiety, however the literature suggests that social support can be an important moderator (Michie and Williams, 2002). Therefore, the following section suggests how existing mentoring networks designed to strengthen peer support, could be employed to reduce anxiety.

As argued in Chapter 4, it is essential that all self-care strategies are normalised within the organisation. Mitchell and Bray (1990) used the example of seatbelts to demonstrate that attitude change is possible. Emergency service workers in the USA were encouraged to think of self-care behaviours, such as counselling, as analogous to seatbelts and hardhats, with both vital for team, individual and public safety. For emphasis the authors stressed that the initial principle of first aid is ensuring the safety and health of the responder (Mitchell and Bray, 1990). Therefore education needs to foster suitable routines and attitudes and therefore pre-registration training should include routine clinical supervision and anxiety management.

A literature search of workplace interventions for nurses argued that organisation-initiated policies are less effective than self-care strategies developed by staff themselves (McVicar, 2003). Therefore, more experienced staff could be encouraged to share their strategies for reducing anxiety with junior colleagues and encourage student nurses to plan and develop their own strategies as part of training. All trainee nurses are currently assigned a senior nurse as a mentor to aid their learning, and therefore discussions of anxiety could take place within these existing mentoring networks. These more senior staff will then be in a position to offer reassurance and demonstrate that such responses are normal, potentially reducing stigma, which may have prevented their colleagues from seeking formal support (White et al., 2004).

8.1.6.2 Depersonalisation

A positive predictive relationship was detected between compassion satisfaction and depersonalisation and both variables were detected at concerning levels. Therefore it is possible that nurses experiencing greater intrinsic reward may be more susceptible to depersonalisation. It is therefore vital that nurses reflect

on their sources of reward and demonstrate awareness of when depersonalisation is reaching problematic levels.

Registered nurses are required to undertake some form of Continuing Professional Development (CPD) and recent trends favour a more holistic framework, emphasising the importance of self-reflection (Lawton and Wimpeny, 2003). Consequently, the MBI could be offered as a screening tool to help nurses monitor their own wellbeing. Staff could be encouraged to complete this measure regularly and become aware of factors that might be responsible for variations in their depersonalisation scores. However, depersonalisation is the antithesis of many values in nursing and staff may be concerned about their professional image. To help reduce stigma and enhance engagement with this initiative, staff could be reassured that depersonalisation awareness is especially relevant for staff who find their role rewarding.

8.1.6.3 Organisational culture

Perceptions of the organisation appeared important for staff wellbeing, with perceived support and an innovative culture associated with reduced burnout. This positive relationship suggests that staff experiencing greater reward and satisfaction also perceive their organisation to be more challenging, entrepreneurial and dynamic. This is an important finding as organisational culture, and especially sub-culture, predicts positive outcomes, including staff commitment (Lok et al., 2005). Potentially a more innovative occupational culture could improve retention and recruitment which are especially prevalent problems within older adult care contexts (Nordenfelt, 2009).

Currently the NHS is undergoing a period of re-structure, however the survey suggests that change need not be perceived as disruptive and staff benefit from belonging to a more dynamic working environment. Therefore, it is suggested

that at an organisational sub-culture level, ward managers need to emphasise how proposed changes are both vital and innovative. At a wider organisational level, to improve staff recruitment and retention, it is argued that the NHS should emphasise that it is not a static and unresponsive organisation, rather it is continually evolving.

Workplaces can also consider cost-saving innovations. The Royal College of Nurses is a strong advocate for workplace innovation and cost-assessed nurse-led strategies are accessible from their webpages (Royal College of Nurses, 2013). The RCN also provides advice on how nurses can participate in or lead innovative healthcare within their own workplaces. Therefore wards, hospitals and Trusts keen to benefit from a more innovative culture can draw upon strategies publically available and evaluated for both cost and efficiency (Hoong Sin, 2013; Royal College of Nurses, 2013).

8.1.6.4 Clinical recommendations summary

Implementing occupational health interventions, especially within healthcare can be problematic with staff concerned about promotion prospects and being labelled as unable to cope (Jonsson and Halabi, 2006). Therefore in order to address both the high levels of depersonalisation and anxiety, staff need to feel comfortable seeking support and such behaviours should be considered normal and routine. Moreover, the NHS is currently under pressure to demonstrate efficiency and value for money, therefore this section described how the findings of the survey can be integrated into existing resources (Hoong Sin and Fitzpatrick, 2013).

8.1.7 Future research

The survey suggested an alarmingly high prevalence of anxiety, however, the sample was not representative, arguably making it difficult to press for action. Therefore to enable representative data to be collected on a larger scale the HADs could be included within a random subset of the existing NHS staff surveys. This measure is both brief and validated, and therefore it could collect useful data without placing a great burden on respondents or administrators. Inclusion could help address questions about anxiety prevalence and provide justification for further resources to assist staff.

Questions remain about the appropriateness of the ProQoL as a tool to assess secondary trauma. Mean scores in the current study did not reach threshold values which is surprising given the high prevalence of anxiety. Therefore future research should include both the STSS and ProQoL, in addition to an established PTSD screening and diagnostic tool such as the PDS (see Chapter 3). This would enable evaluations of tool sensitivity and ability to assess severity of secondary trauma symptoms.

8.1.8 Summary

This explorative project determined evidence for both distress and reward in nursing staff providing older adult care. This occupational cohort has been subject to negative media scrutiny and criticised for discompassionate care and even neglect (Goodrich and Cornwell, 2008) yet the present study provides evidence that empathy was comparable with other samples of nurses. Moreover, it is argued that organisational culture is a better predictor of nurse wellbeing than cumulative exposure to, or engagement with, distressed patients. Therefore, future research and policy should focus upon promoting an innovative and supportive working environment.

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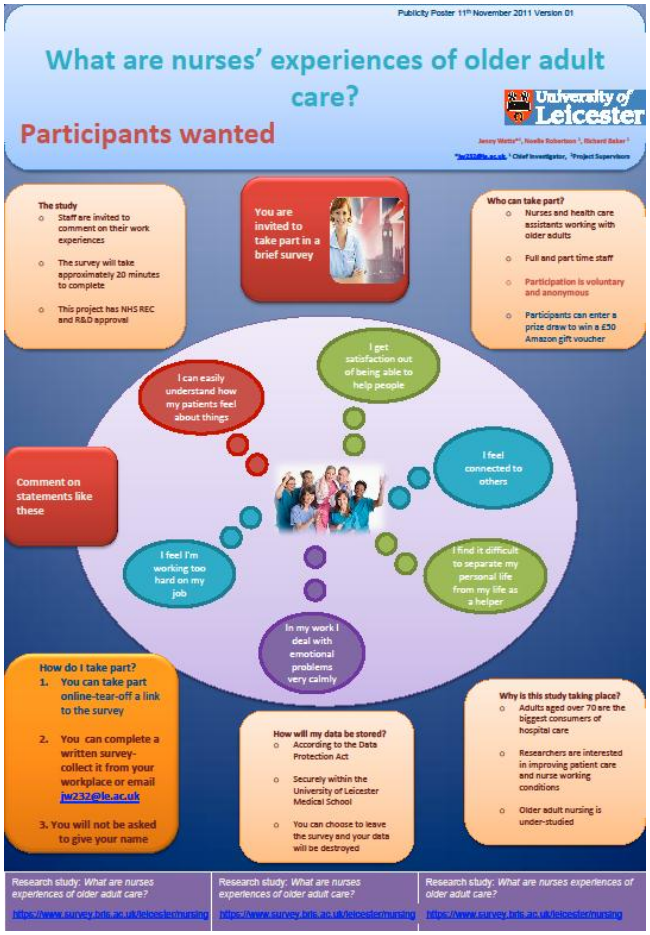
Appendices

APPENDIX A

Table 1 Titles used

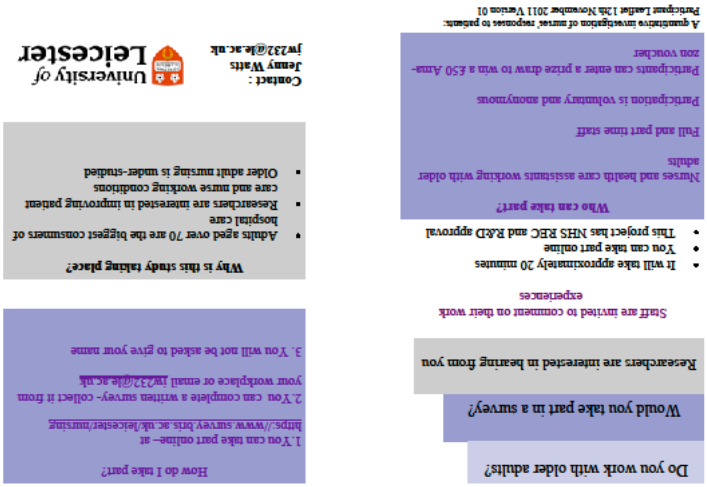
Title	N
Nurse	1
Deputy charge nurse	1
Senior nurse	1
Ward Matron	1
NHS manager	1
Community mental health nurse	1
Student	1
Health Care Support Nurse (HCSN)	1
Ward sister	1
Advanced nurse practitioner	1
Community services manager	1
Psychiatric nurse	1
Senior staff nurse	1
Nursing auxiliary	1
Deputy charge nurse	1
Nursing sister	1
Continence nurse specialist	1
Medical student educator	1
SLN	1
Sister	1
Clinical nurse specialist	1
Nurse specialist	1
Deputy Ward manager	2
Community Matron	2
Research nurse	3
Registered Mental Nurse (RMN)	4
Health Care Support Worker (HCSW)	8
Registered General Nurse (RGN)	9
Community Psychiatric Nurse (CPN)	10
Health Care Assistant (HCA)	11
Staff nurse	18
Total	89

Appendix B Publicity material-poster



APPENDIX B

Publicity material-flier



Do you work with older adults?

Would you take part in a survey?

Researchers are interested in hearing from you

Staff are invited to comment on their work experiences

- It will take approximately 20 minutes
- You can take part online
- This project has NHS REC and R&D approval

Who can take part?

Nurses and health care assistants working with older adults

Full and part time staff

Participation is voluntary and anonymous

Participants can enter a prize draw to win a £50 Amazon voucher

A quantitative investigation of nurses' responses to patients:
Participant Leaflet 12th November 2011 Version 01

How do I take part?

1. You can take part online– at https://www.survey.bris.ac.uk/leicester/nursing
2. You can complete a written survey- collect it from your workplace or email jw232@le.ac.uk
3. You will not be asked to give your name

Why is this study taking place?

- Adults aged over 70 are the biggest consumers of hospital care
- Researchers are interested in improving patient care and nurse working conditions
- Older adult nursing is under-studied

Contact :
Jenny Watts
jw232@le.ac.uk

University of Leicester

A quantitative investigation of nurses' responses to patients:
Participant Leaflet 12th November 2011 Version 01

FAQ

How long is the survey?
The survey will take approximately 20 minutes

What kind of questions will I be asked?
The questions cover social support, perceptions of the workplace and reactions to care work.

What about confidentiality?
- Participation is anonymous
- You will not be asked your name
- Responses will only be shared if there are concerns for patient or staff safety

How will my data be stored?
- According to the Data Protection Act
- Securely within the University of Leicester Medical School
- You can chose to leave the survey and your data will be destroyed

What about ethical approval?
This project has NHS REC and NHS R&D approval which means that NHS personnel have reviewed and approved this study

What will happen to the results?
- Written reports will be available to all participating workplaces
- Results will be presented at conferences
- Results will form part of the Chief Investigator's PhD

Contact :
Jenny Watts
jw232@le.ac.uk

University of Leicester

University of Leicester

What are nurses' experiences of older adult care?

Take part in a brief survey running now!

A quantitative investigation of nurses' responses to patients:
Participant Leaflet 12th November 2011 Version 01

APPENDIX C

Information Sheet

University of Leicester

What are the Experiences of Nursing Staff Working in Older Adult Care?

Participant Information Sheet -Version 01 October 24th 2011

This Information Sheet has been designed to answer some of the questions you may have before deciding whether or not you would like to participate. Thank you for reading this Information Sheet.

Please read through the details of the study and please ask any questions that you may have. If you think of any questions later the Chief Investigator's contact details are provided below:

Chief Investigator

Miss Jenny Watts
School of Psychology
University of Leicester
Henry Wellcome Centre
Lancaster Road
LE1 9HN
Email: jw232@le.ac.uk
Telephone: 0116 229 7155

Introduction

Many researchers are interested in improving the working conditions for nursing staff, however very few have consulted nurses working in older adult care.

What is the purpose of the study?

This study is interested in establishing the experiences of nursing staff working within older adult care. We would like to hear about your responses to patient care. This survey follows on from interviews of nursing staff and the questions have been guided by the interview results.

Why have I been chosen?

You have been chosen to take part in this study because you work in an older adult care setting. This study is interested in learning about the experiences of nurses, nursing auxiliaries and care assistants who care for older adults. Participants can be part time or full time employees.

Do I have to take part?

It is up to you to decide if you would like to part. If you decide to take part you are still free to withdraw at any time and you do not have to provide a reason. If do you choose to leave the study any data collected from you will be destroyed.

How do I sign-up for the study?

You can complete the survey at https://www.survey.bris.ac.uk/leicester/nursing

What will happen to me if I take part?

The study involves completing a brief survey about your experiences of working with in old adult care. The survey will take place online and will last no longer than 20 minutes.

What are the possible benefits of taking part?

This study provides nurses and nursing auxiliaries with the opportunity to formally share their experience of working within older adult care. Involvement in the study may help to improve training or support offered to nursing staff working within older adult care. Participants also have the opportunity to add to the existing literature about nurses' experience of older adult care.

APPENDIX C

Consent Form

Participant Consent Form Version 01 - October 24th 2011

What are the Experiences of Nursing Staff Working in Older Adult Care?

Name of Chief investigator:
Miss Jenny Watts

Please tick box

1. I confirm that I have read and understood the Information Sheet dated 24th October 2011 (version 01) for the above study and have had the opportunity to ask questions. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my conditions of employment or legal rights being affected. ☐
3. I understand that my responses will remain confidential. ☐
4. I understand that my data will be stored in accordance with the Data Protection Act (1988). ☐
5. I understand that if in the course of this study the Chief Investigator becomes concerned for patient or staff safety they have a duty to act on these concerns. ☐
6. I understand that only anonymised quotes will be used and published in the final report and that if an individual is mentioned, a pseudonym will be provided to protect that individuals' identity. ☐
7. I agree to take part in the above study. ☐

APPENDIX D
Categorisation of MBI scores

Table 1

Emotional exhaustion scores compared with normative values for medical professionals

EEMedNorms

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low ≤18	18	14.0	14.2	14.2
	Average 19-26	57	44.2	44.9	59.1
	High ≥27	52	40.3	40.9	100.0
	Total	127	98.4	100.0	
Missing	System	2	1.6		
Total		129	100.0		

Table 2

Depersonalisation scores compared with normative values for medical professionals

DMedNorms

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low ≤5	2	1.6	1.6	1.6
	Average 6-9	7	5.4	5.5	7.0
	High ≥10	119	92.2	93.0	100.0
	Total	128	99.2	100.0	
Missing	System	1	.8		
Total		129	100.0		

Table 3

Personal accomplishment scores compared with normative values for medical professionals

PAMedNorms

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Average 34-39	1	.8	.8	.8
	High ≤33	127	98.4	99.2	100.0
	Total	128	99.2	100.0	
Missing	System	1	.8		
Total		129	100.0		

APPENDIX E

Table 1 Compassion satisfaction scores grouped according to ProQoL norms

CompSatGroup

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low <44	79	61.2	71.2	71.2
	Average 44-57	32	24.8	28.8	100.0
	Total	111	86.0	100.0	
Missing	System	18	14.0		
Total		129	100.0		

Table 2 Burnout scores grouped according to ProQoL norms

BGroup

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low <43	110	85.3	100.0	100.0
Missing	System	19	14.7		
Total		129	100.0		

Table 3 Compassion fatigue scores grouped according to ProQoL norms

CFGroup

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low<42	109	84.5	100.0	100.0
Missing	System	20	15.5		
Total		129	100.0		

APPENDIX F Table 1 Mean ratings of items from the OCI

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
OCI_6ResultsOrientated	106	1	4	3.41	.837
OCI_11Pressurised	105	1	4	3.36	.833
OCI_4Procedural	106	1	4	3.23	.897
OCI_14Regulated	105	1	4	3.15	.959
OCI_24PowerOrientated	106	1	4	3.12	.881
OCI_18Challenging	106	1	4	3.10	.816
OCI_3Hierachical	105	1	4	3.05	.974
OCI_10Structured	106	1	4	3.00	.976
OCI_12Ordered	106	1	4	2.79	.870
OCI_20EstablishedSolid	103	1	4	2.73	1.002
OCI_21Cautious	105	1	4	2.71	.927
OCI_17Safe	105	1	4	2.70	1.001
OCI_23Driving	106	1	4	2.58	1.032
OCI_16Equitable	105	1	4	2.39	.966
OCI_2Collaborative	105	1	4	2.38	.944
OCI_22Trusting	106	1	4	2.33	.953
OCI_19Enterprising	106	1	4	2.33	.963
OCI_13Stimulating	106	1	4	2.33	.891
OCI_8Encouraging	106	1	4	2.15	.903
OCI_7Creative	106	1	4	2.07	.969
OCI_9Sociable	106	1	4	2.06	.882
OCI_1RiskTaking	102	1	4	2.02	1.053
OCI_5RelationshipsOrientated	106	1	4	2.02	1.005
OCI_15PersonalFreedom	106	1	4	2.02	.926
Valid N (listwise)	96				

APPENDIX G

Table 1 Anxiety scores from the Hospital Anxiety and Depression Scale categorised as high and low (using the threshold score of 11)

ANX (Binned)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	AnxBelowEleven	68	52.7	64.2	64.2
	AnxAboveEleven	38	29.5	35.8	100.0
	Total	106	82.2	100.0	
Missing	System	23	17.8		
Total		129	100.0		

Table 2 Depression scores from the Hospital Anxiety and Depression Scale categorised as high and low (using the threshold score of 11

DEP (Binned)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	DepBelowEleven	100	77.5	93.5	93.5
	DepAboveEleven	7	5.4	6.5	100.0
	Total	107	82.9	100.0	
Missing	System	22	17.1		
Total		129	100.0		

Table 3 Anxiety scores from the Hospital Anxiety and Depression Scale categorised as high and low (using the threshold score of 8)

ANX (Binned)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	belowEight	35	27.1	33.0	33.0
	AboveEight	71	55.0	67.0	100.0
	Total	106	82.2	100.0	
Missing	System	23	17.8		
Total		129	100.0		

APPENDIX G

Table 4 Depression scores from the Hospital Anxiety and Depression Scale categorised as high and low (using the threshold score of 8)

DEP (Binned)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	DepBelowEight	76	58.9	71.0	71.0
	DepAboveEight	31	24.0	29.0	100.0
	Total	107	82.9	100.0	
Missing	System	22	17.1		
Total		129	100.0		

APPENDIX H Explaining burnout (MBI)

Table 1 Correlations with burnout from MBI

		SPOSTotal	STS	ociSUPP	ociINN	ociB	age	gender	yrsnursing	yrswithoa	CompSat
EE	Pearson Correlation	-.171	.142	-.083	.143	-.028	-.032	-.158	.073	.177	.162
	Sig. (2-tailed)	.068	.145	.407	.157	.783	.723	.079	.418	.054	.092
	N	115	107	101	99	98	125	125	125	119	109
D	Pearson Correlation	-.027	-.048	-.046	.054	.112	.072	.145	.049	.053	.424**
	Sig. (2-tailed)	.775	.619	.644	.597	.268	.421	.105	.583	.567	.000
	N	115	108	102	100	100	126	126	126	120	110
PA	Pearson Correlation	.114	-.066	.091	.260**	.174	-.082	-.139	-.067	-.007	.229*
	Sig. (2-tailed)	.224	.500	.364	.009	.085	.363	.121	.458	.937	.016
	N	115	108	102	100	99	126	126	126	120	110

APPENDIX H

Multiple regression models for burnout

Table 2 Organisational Model for Emotional Exhaustion

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	SPOSTotal	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	CompSat	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: EE

Table 3 Organisational Model for Emotional Exhaustion Continued

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.234[a]	.055	.044	4.19965
2	.313[b]	.098	.078	4.12457

a. Predictors: (Constant), SPOSTotal

b. Predictors: (Constant), SPOSTotal, CompSat

c. Dependent Variable: EE

Table 4 Organisational Model for Emotional Exhaustion Continued

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	91.654	1	91.654	5.197	.025[b]
	Residual	1587.335	90	17.637		
	Total	1678.989	91			
2	Regression	164.915	2	82.458	4.847	.010[c]
	Residual	1514.074	89	17.012		
	Total	1678.989	91			

a. Dependent Variable: EE
b. Predictors: (Constant), SPOSTotal
c. Predictors: (Constant), SPOSTotal, CompSat

Table 5 Organisational Model for Emotional Exhaustion Continued

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	10.560	1.408		7.503	.000		
	SPOSTotal	-.059	.026	-.234	-2.280	.025	1.000	1.000
2	(Constant)	4.989	3.020		1.652	.102		
	SPOSTotal	-.079	.027	-.310	-2.891	.005	.883	1.132
	CompSat	.167	.081	.222	2.075	.041	.883	1.132

a. Dependent Variable: EE

APPENDIX H

Multiple regression models for Burnout

Table 6 Organisational Model for Emotional Exhaustion Continued

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	ociB	-.074[b]	-.712	.478	-.075	.990	1.010	.990
	ociINN	.100[b]	.949	.345	.100	.944	1.059	.944
	ociSUPP	-.074[b]	-.516	.607	-.055	.509	1.967	.509
	age	.040[b]	.389	.698	.041	1.000	1.000	1.000
	CompSat	.222[b]	2.075	.041	.215	.883	1.132	.883
2	ociB	-.111[c]	-1.081	.282	-.115	.964	1.038	.860
	ociINN	.070[c]	.669	.505	.071	.924	1.082	.855
	ociSUPP	-.153[c]	-1.054	.295	-.112	.480	2.085	.480
	age	.014[c]	.138	.890	.015	.984	1.016	.869

a. Dependent Variable: EE
b. Predictors in the Model: (Constant), SPOSTotal
c. Predictors in the Model: (Constant), SPOSTotal, CompSat

Table 7 Empathy model for Emotional Exhaustion

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	132.077	6	22.013	1.325	.254[b]
	Residual	1528.367	92	16.613		
	Total	1660.444	98			

a. Dependent Variable: EE

b. Predictors: (Constant), yrswithoa, PersonalDistress, EmpathicConcern, FantasyScale, PerspectiveTaking, yrsnursing

APPENDIX H

Table 8 Organisational model for Personal Accomplishment

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	CompSat	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: PA

Table 9 Organisational model for Personal Accomplishment Continued

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.255[a]	.065	.055	2.35333

a. Predictors: (Constant), CompSat

Table 10 Organisatonal model for Personal Accomplishment Continued

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.640	1	34.640	6.255	.014[b]
	Residual	498.436	90	5.538		
	Total	533.076	91			

a. Dependent Variable: PA

b. Predictors: (Constant), CompSat

Table 11 Organisational model for Personal Accomplishment Continued

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.950	1.720		.553	.582
	CompSat	.109	.043	.255	2.501	.014

a. Dependent Variable: PA

APPENDIX H

Table 12 Organisational model for Personal Accomplishment Continued

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	ociB	.054[b]	.515	.608	.054	.957
	ociINN	.086[b]	.820	.414	.087	.949
	ociSUPP	-.074[b]	-.666	.507	-.070	.844
	SPOSTotal	-.021[b]	-.190	.850	-.020	.873
	age	-.024[b]	-.231	.818	-.024	.985

a. Dependent Variable: PA

b. Predictors in the Model: (Constant), CompSat

Table 13 Empathy model for Personal Accomplishment Continued

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.349	6	4.058	.739	.619[b]
	Residual	504.944	92	5.489		
	Total	529.293	98			

a. Dependent Variable: PA

b. Predictors: (Constant), yrswithoa, PersonalDistress, EmpathicConcern, FantasyScale, PerspectiveTaking, yrsnursing

Table 14 Organisational model of Depersonalisation

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	CompSat	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	ociSUPP	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: D

APPENDIX H

Table 15 Organisational model of Depersonalisation Continued

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.395[a]	.156	.147	2.91232
2	.453[b]	.205	.187	2.84161

a. Predictors: (Constant), CompSat
b. Predictors: (Constant), CompSat, ociSUPP

Table 16 Organisational model of Depersonalisation Continued

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	142.429	1	142.429	16.793	.000[b]
	Residual	771.829	91	8.482		
	Total	914.258	92			
2	Regression	187.533	2	93.767	11.612	.000[c]
	Residual	726.725	90	8.075		
	Total	914.258	92			

a. Dependent Variable: D
b. Predictors: (Constant), CompSat
c. Predictors: (Constant), CompSat, ociSUPP

Table 17 Organisational model of Depersonalisation Continued

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.822	2.119		-1.332	.186
	CompSat	.219	.053	.395	4.098	.000
2	(Constant)	-2.276	2.081		-1.094	.277
	CompSat	.271	.057	.489	4.789	.000
	ociSUPP	-.147	.062	-.241	-2.363	.020

a. Dependent Variable: D

Table 18 Organisational model of Depersonalisation Continued

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	ociB	.000[b]	-.003	.998	.000	.963
	ociINN	-.027[b]	-.276	.784	-.029	.954
	ociSUPP	-.241[b]	-2.363	.020	-.242	.847
	SPOSTotal	-.184[b]	-1.812	.073	-.188	.881
	age	.031[b]	.314	.754	.033	.985
2	ociB	.039[c]	.398	.692	.042	.936
	ociINN	.081[c]	.762	.448	.080	.791
	SPOSTotal	-.058[c]	-.448	.656	-.047	.533
	age	.030[c]	.313	.755	.033	.985

a. Dependent Variable: D
b. Predictors in the Model: (Constant), CompSat
c. Predictors in the Model: (Constant), CompSat, ociSUPP

APPENDIX H

Table 19 Empathy model of Depersonalisation

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.275	6	3.213	.342	.913[b]
	Residual	864.907	92	9.401		
	Total	884.182	98			

a. Dependent Variable: D

b. Predictors: (Constant), yrswithoa, PersonalDistress, EmpathicConcern, FantasyScale, PerspectiveTaking, yrsnursing

APPENDIX I

Table 1 Correlations between STS and potential predictors

		PerspectiveTaking	FantasyScale	EmpathicConcern	PersonalDistress	CompSat	age	yrsnursing	yrswithoa	ociB	ociINN	ociSUPP	SPOSTotal
STS	Pearson Correlation	-.167	.220*	.030	.365**	-.235*	-.252**	-.075	-.073	-.039	-.098	-.088	-.086
	Sig. (2-tailed)	.084	.023	.761	.000	.014	.009	.442	.471	.700	.336	.378	.380
	N	108	107	108	108	109	107	107	101	98	99	103	107

Table 2 Empathy model for STS

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	PersonalDistress	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: STS

Table 3 Empathy model for STS Continued

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.343[a]	.118	.108	4.78192

a. Predictors: (Constant), PersonalDistress

APPENDIX I

Table 4 Empathy model for STS Continued

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	286.484	1	286.484	12.528	.001[b]
	Residual	2149.474	94	22.867		
	Total	2435.958	95			

a. Dependent Variable: STS

b. Predictors: (Constant), PersonalDistress

Table 5 Empathy model for STS Continued

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	17.345	1.021		16.981	.000
	PersonalDistress	.335	.095	.343	3.540	.001

a. Dependent Variable: STS

Table 6 Empathy model for STS Continued

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	PerspectiveTaking	-.005[b]	-.049	.961	-.005	.801
	FantasyScale	.160[b]	1.601	.113	.164	.923
	EmpathicConcern	.104[b]	1.064	.290	.110	.984
	yrsnursing	-.144[b]	-1.486	.141	-.152	.990
	yrswithoa	-.164[b]	-1.698	.093	-.173	.991

a. Dependent Variable: STS

b. Predictors in the Model: (Constant), PersonalDistress

APPENDIX I

Table 7 Organisational model for STS

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	CompSat	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: STS

Table 8 Organisational model for STS Continued

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.256[a]	.065	.055	5.04480

a. Predictors: (Constant), CompSat

Table 9 Organisational model for STS Continued

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	161.752	1	161.752	6.356	.013[b]
	Residual	2315.947	91	25.450		
	Total	2477.699	92			

a. Dependent Variable: STS

b. Predictors: (Constant), CompSat

Table 10 Organisational model for STS Continued

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	29.376	3.671		8.002	.000
	CompSat	-.233	.093	-.256	-2.521	.013

a. Dependent Variable: STS

APPENDIX I

Table 11 Organisational model for STS Continued

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	ociB	.013[b]	.125	.901	.013	.963
	ociSUPP	.057[b]	.516	.607	.054	.847
	ociINN	.018[b]	.169	.866	.018	.954
	SPOSTotal	.020[b]	.189	.851	.020	.881
	age	-.199[b]	-1.982	.051	-.204	.985

a. Dependent Variable: STS

b. Predictors in the Model: (Constant), CompSat

APPENDIX J Differences between groups

Table 1 differences in HADS scores between males and females

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ANX	Equal variances assumed	.000	.997	1.686	102	.095	1.48670	.88176	-.26228	3.23567
	Equal variances not assumed			1.641	32.023	.111	1.48670	.90604	-.35880	3.33219
DEP	Equal variances assumed	.448	.505	1.564	103	.121	1.02863	.65760	-.27556	2.33283
	Equal variances not assumed			1.603	36.572	.118	1.02863	.64182	-.27233	2.32960

Table 2 MBI differences between males and females

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
EE	Equal variances assumed	2.779	.098	1.769	123	.079	1.65516	.93573	-.19706	3.50737
	Equal variances not assumed			1.604	29.722	.119	1.65516	1.03162	-.45251	3.76283
D	Equal variances assumed	.794	.375	-1.635	124	.105	-1.13550	.69452	-2.51016	.23916
	Equal variances not assumed			-1.535	30.591	.135	-1.13550	.73952	-2.64458	.37358
PA	Equal variances assumed	2.804	.097	1.561	124	.121	.84973	.54433	-.22766	1.92711
	Equal variances not assumed			1.254	27.086	.220	.84973	.67736	-.53990	2.23935

Table 3 ProQoL differences between males and females

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
STS	Equal variances assumed	1.212	.273	.053	105	.958	.06263	1.19136	-2.29961	2.42487
	Equal variances not assumed			.047	30.687	.963	.06263	1.32958	-2.65018	2.77544
Burnout	Equal variances assumed	.007	.932	.555	106	.580	.51918	.93493	-1.33442	2.37278
	Equal variances not assumed			.574	36.537	.569	.51918	.90374	-1.31276	2.35112
CompSat	Equal variances assumed	1.260	.264	-2.056	107	.042	-2.78059	1.35250	-5.46176	-.09941
	Equal variances not assumed			-1.749	29.039	.091	-2.78059	1.58973	-6.03176	.47059

APPENDIX K

Table 1 Differences by registration status

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
STS	Equal variances assumed	.002	.961	-.878	103	.382	-1.06955	1.21836	-3.48589	1.34679
	Equal variances not assumed			-.847	31.558	.403	-1.06955	1.26296	-3.64353	1.50443
Burnout	Equal variances assumed	10.161	.002	1.961	104	.053	1.82900	.93292	-.02102	3.67903
	Equal variances not assumed			1.542	25.924	.135	1.82900	1.18587	-.60893	4.26694
CompSat	Equal variances assumed	2.389	.125	1.419	105	.159	1.99224	1.40375	-.79113	4.77560
	Equal variances not assumed			1.214	29.297	.234	1.99224	1.64104	-1.36260	5.34707
EE	Equal variances assumed	.386	.536	.574	122	.567	.50515	.88062	-1.23812	2.24843
	Equal variances not assumed			.569	41.131	.573	.50515	.88817	-1.28837	2.29868
D	Equal variances assumed	1.114	.293	.540	123	.590	.35525	.65766	-.94654	1.65705
	Equal variances not assumed			.505	38.099	.616	.35525	.70294	-1.06765	1.77816
PA	Equal variances assumed	.321	.572	-.900	122	.370	-.41963	.46634	-1.34279	.50354
	Equal variances not assumed			-.847	38.475	.402	-.41963	.49553	-1.42236	.58311
ANX	Equal variances assumed	.573	.451	-1.089	100	.279	-.96364	.88528	-2.72000	.79273
	Equal variances not assumed			-1.012	30.547	.319	-.96364	.95201	-2.90643	.97916
DEP	Equal variances assumed	2.494	.117	-.130	101	.897	-.08804	.67799	-1.43300	1.25691
	Equal variances not assumed			-.118	31.405	.907	-.08804	.74832	-1.61345	1.43736

Table 2 Differences between scores across all measures according to relationship status

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CompSat	Equal variances assumed	.266	.607	-.598	108	.551	-.79762	1.33394	-3.44173	1.84649
	Equal variances not assumed			-.568	38.648	.573	-.79762	1.40364	-3.63757	2.04233
Burnout	Equal variances assumed	.356	.552	-1.167	107	.246	-1.03985	.89125	-2.80665	.72695
	Equal variances not assumed			-1.140	40.378	.261	-1.03985	.91232	-2.88318	.80347
STS	Equal variances assumed	.015	.902	-1.794	106	.076	-2.00469	1.11732	-4.21989	.21051
	Equal variances not assumed			-1.908	46.781	.063	-2.00469	1.05060	-4.11848	.10910
ANX	Equal variances assumed	.014	.906	-.636	103	.526	-.54630	.85949	-2.25089	1.15830
	Equal variances not assumed			-.646	38.671	.522	-.54630	.84516	-2.25627	1.16367
DEP	Equal variances assumed	1.181	.280	.450	104	.653	.29776	.66137	-1.01376	1.60928
	Equal variances not assumed			.410	33.166	.684	.29776	.72622	-1.17947	1.77499
EE	Equal variances assumed	.067	.796	-1.626	124	.107	-1.38542	.85214	-3.07203	.30120
	Equal variances not assumed			-1.629	48.658	.110	-1.38542	.85051	-3.09489	.32406
D	Equal variances assumed	.860	.356	-.191	125	.849	-.12280	.64299	-1.39537	1.14976
	Equal variances not assumed			-.203	50.439	.840	-.12280	.60578	-1.33928	1.09368
PA	Equal variances assumed	.520	.472	-.620	125	.536	-.30928	.49884	-1.29654	.67799
	Equal variances not assumed			-.692	58.802	.491	-.30928	.44665	-1.20309	.58453

Table 3 differences between scores across all measures according to care responsibilities

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
STS	Equal variances assumed	1.003	.319	.280	106	.780	.27381	.97767	-1.66453	2.21214
	Equal variances not assumed			.285	104.361	.776	.27381	.96026	-1.63036	2.17797
Burnout	Equal variances assumed	.502	.480	-.169	107	.866	-.13006	.77173	-1.65993	1.39981
	Equal variances not assumed			-.167	94.557	.868	-.13006	.78078	-1.68021	1.42008
CompSat	Equal variances assumed	1.305	.256	-.368	108	.713	-.42249	1.14680	-2.69566	1.85067
	Equal variances not assumed			-.355	83.156	.724	-.42249	1.19180	-2.79286	1.94788
EE	Equal variances assumed	1.415	.236	.192	124	.848	.14161	.73945	-1.32197	1.60520
	Equal variances not assumed			.189	109.406	.851	.14161	.74988	-1.34457	1.62780
D	Equal variances assumed	.191	.663	-.115	125	.908	-.06288	.54477	-1.14104	1.01529
	Equal variances not assumed			-.116	119.870	.907	-.06288	.53997	-1.13200	1.00624
PA	Equal variances assumed	.181	.671	1.220	125	.225	.51836	.42489	-.32256	1.35928
	Equal variances not assumed			1.246	124.532	.215	.51836	.41608	-.30515	1.34187
ANX	Equal variances assumed	2.316	.131	.707	103	.481	.51677	.73113	-.93327	1.96680
	Equal variances not assumed			.724	99.565	.471	.51677	.71410	-.90007	1.93360
DEP	Equal variances assumed	.000	.997	1.074	104	.285	.59891	.55746	-.50655	1.70437
	Equal variances not assumed			1.076	95.592	.284	.59891	.55644	-.50568	1.70349

Table 4 differences for dimensions of empathy between registered and non-registered nursing staff

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
PersonalDistress	Equal variances assumed	.591	.444	-1.519	107	.132	-1.88170	1.23841	-4.33669	.57330
	Equal variances not assumed			-1.390	31.198	.174	-1.88170	1.35379	-4.64205	.87865
EmpathicConcern	Equal variances assumed	1.439	.233	-.889	106	.376	-.66445	.74777	-2.14698	.81808
	Equal variances not assumed			-.751	28.935	.458	-.66445	.88418	-2.47297	1.14407
FantasyScale	Equal variances assumed	.012	.911	-.032	105	.974	-.03931	1.22657	-2.47137	2.39274
	Equal variances not assumed			-.034	32.996	.973	-.03931	1.15434	-2.38785	2.30922
PerspectiveTaking	Equal variances assumed	.624	.431	-1.322	106	.189	-1.33555	1.00989	-3.33775	.66665
	Equal variances not assumed			-1.124	29.061	.270	-1.33555	1.18844	-3.76595	1.09485

Table 5 differences in wellbeing compared between Acute, Mental Health and Primary Care Trust staff

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CompSat	Equal variances assumed	.393	.534	-1.370	37	.179	-3.72222	2.71731	-9.22803	1.78358
	Equal variances not assumed			-1.718	2.602	.198	-3.72222	2.16610	-11.25212	3.80768
Burnout	Equal variances assumed	.258	.615	.154	37	.879	.36111	2.34957	-4.39958	5.12180
	Equal variances not assumed			.183	2.532	.868	.36111	1.96900	-6.61505	7.33728
STS	Equal variances assumed	.852	.362	.712	37	.481	2.22222	3.12024	-4.09999	8.54443
	Equal variances not assumed			.892	2.599	.447	2.22222	2.49203	-6.44723	10.89168
ANX	Equal variances assumed	5.005	.032	.996	36	.326	2.26667	2.27550	-2.34827	6.88160
	Equal variances not assumed			2.423	7.347	.044	2.26667	.93543	.07572	4.45761
DEP	Equal variances assumed	.629	.433	.183	36	.856	.32381	1.77259	-3.27116	3.91878
	Equal variances not assumed			.211	2.504	.849	.32381	1.53724	-5.16521	5.81283
EE	Equal variances assumed	1.566	.217	1.122	45	.268	2.44186	2.17718	-1.94320	6.82692
	Equal variances not assumed			1.936	5.528	.105	2.44186	1.26141	-.70973	5.59345
D	Equal variances assumed	.723	.400	-.323	45	.749	-.54651	1.69460	-3.95960	2.86658
	Equal variances not assumed			-.386	3.914	.719	-.54651	1.41429	-4.50767	3.41465
PA	Equal variances assumed	.215	.645	.902	45	.372	1.19186	1.32095	-1.46868	3.85240
	Equal variances not assumed			.802	3.437	.474	1.19186	1.48590	-3.21454	5.59826

Table 6 Differences between scores across all measures according to age of respondent

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CompSat	Equal variances assumed	.216	.643	-.857	107	.393	-.93002	1.08474	-3.08038	1.22034
	Equal variances not assumed			-.861	106.466	.391	-.93002	1.08060	-3.07230	1.21226
Burnout	Equal variances assumed	3.013	.085	-.041	106	.968	-.03096	.76360	-1.54487	1.48295
	Equal variances not assumed			-.040	94.938	.968	-.03096	.77362	-1.56679	1.50487
STS	Equal variances assumed	11.574	.001	1.847	105	.068	1.78395	.96598	-.13140	3.69931
	Equal variances not assumed			1.790	82.405	.077	1.78395	.99643	-.19812	3.76603
ANX	Equal variances assumed	9.316	.003	2.161	102	.033	1.54762	.71615	.12713	2.96810
	Equal variances not assumed			2.122	88.708	.037	1.54762	.72941	.09823	2.99701
DEP	Equal variances assumed	1.222	.271	1.239	103	.218	.68622	.55393	-.41237	1.78482
	Equal variances not assumed			1.229	97.058	.222	.68622	.55819	-.42161	1.79406
EE	Equal variances assumed	.245	.622	-.005	123	.996	-.00359	.73869	-1.46578	1.45861
	Equal variances not assumed			-.005	122.904	.996	-.00359	.73733	-1.46309	1.45592
D	Equal variances assumed	6.421	.013	-1.334	124	.185	-.71018	.53239	-1.76393	.34356
	Equal variances not assumed			-1.339	119.706	.183	-.71018	.53051	-1.76058	.34022
PA	Equal variances assumed	3.298	.072	-.186	124	.853	-.07937	.42758	-.92567	.76694
	Equal variances not assumed			-.186	113.135	.853	-.07937	.42758	-.92648	.76775

Table 7 Differences between scores across all measures according to years in nursing

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CompSat	Equal variances assumed	1.444	.232	-.149	107	.882	-.17153	1.14877	-2.44884	2.10578
	Equal variances not assumed			-.151	106.999	.880	-.17153	1.13337	-2.41830	2.07525
Burnout	Equal variances assumed	.012	.912	-.012	106	.990	-.00966	.77312	-1.54245	1.52314
	Equal variances not assumed			-.013	104.729	.990	-.00966	.77083	-1.53811	1.51880
STS	Equal variances assumed	.348	.556	.741	105	.460	.72140	.97355	-1.20897	2.65178
	Equal variances not assumed			.745	104.692	.458	.72140	.96856	-1.19913	2.64194
ANX	Equal variances assumed	.994	.321	.925	102	.357	.67310	.72784	-.77057	2.11676
	Equal variances not assumed			.930	101.956	.355	.67310	.72380	-.76257	2.10877
DEP	Equal variances assumed	.685	.410	1.424	103	.157	.79082	.55524	-.31038	1.89201
	Equal variances not assumed			1.432	102.642	.155	.79082	.55242	-.30483	1.88646
EE	Equal variances assumed	.047	.829	-.353	123	.725	-.25785	.73128	-1.70536	1.18967
	Equal variances not assumed			-.351	118.678	.726	-.25785	.73370	-1.71068	1.19498
D	Equal variances assumed	.190	.664	.093	124	.926	.05009	.53975	-1.01823	1.11841
	Equal variances not assumed			.093	123.773	.926	.05009	.53682	-1.01244	1.11262
PA	Equal variances assumed	5.951	.016	1.030	124	.305	.43864	.42584	-.40422	1.28150
	Equal variances not assumed			1.068	113.311	.288	.43864	.41070	-.37502	1.25230

Table 8 Differences between scores across all measures according to years working with older adults

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CompSat	Equal variances assumed	1.690	.197	-1.253	101	.213	-1.46901	1.17206	-3.79407	.85605
	Equal variances not assumed			-1.265	100.151	.209	-1.46901	1.16127	-3.77289	.83487
Burnout	Equal variances assumed	2.722	.102	-.418	100	.677	-.33577	.80342	-1.92973	1.25819
	Equal variances not assumed			-.421	98.590	.675	-.33577	.79716	-1.91759	1.24605
STS	Equal variances assumed	.115	.736	-.159	99	.874	-.16052	1.00942	-2.16342	1.84238
	Equal variances not assumed			-.159	98.943	.874	-.16052	1.00833	-2.16127	1.84023
ANX	Equal variances assumed	.789	.377	.006	96	.996	.00418	.74679	-1.47818	1.48654
	Equal variances not assumed			.006	95.698	.996	.00418	.74367	-1.47205	1.48041
DEP	Equal variances assumed	2.543	.114	.106	97	.916	.06071	.57505	-1.08062	1.20203
	Equal variances not assumed			.107	96.986	.915	.06071	.56876	-1.06813	1.18954
EE	Equal variances assumed	.145	.704	-1.571	117	.119	-1.17926	.75073	-2.66604	.30752
	Equal variances not assumed			-1.562	111.337	.121	-1.17926	.75493	-2.67515	.31663
D	Equal variances assumed	.296	.588	-.327	118	.744	-.18080	.55212	-1.27415	.91254
	Equal variances not assumed			-.330	117.873	.742	-.18080	.54836	-1.26673	.90512
PA	Equal variances assumed	7.029	.009	.345	118	.731	.15105	.43804	-.71638	1.01848
	Equal variances not assumed			.361	101.985	.719	.15105	.41855	-.67914	.98124

APPENDIX L
A priori power calculations

[1] *-- Wednesday, November 23, 2011 -- 14:37:56*

F tests - Linear multiple regression: Fixed model, R^2 increase

Analysis: A priori: Compute required sample size

Input:	Effect size f^2	= 0.15
	α err prob	= 0.05
	Power (1-β err prob)	= 0.95
	Number of tested predictors	= 4
	Total number of predictors	= 5
Output:	Noncentrality parameter λ	= 19.3500000
	Critical F	= 2.4453684
	Numerator df	= 4
	Denominator df	= 123
	Total sample size	= 129
	Actual power	= 0.9505094

[2] *-- Wednesday, November 23, 2011 -- 14:38:23*

F tests - Linear multiple regression: Fixed model, R^2 increase

Analysis: A priori: Compute required sample size

Input:	Effect size f^2	= 0.15
	α err prob	= 0.05
	Power (1-β err prob)	= 0.95
	Number of tested predictors	= 6
	Total number of predictors	= 7
Output:	Noncentrality parameter λ	= 21.9000000
	Critical F	= 2.1648927
	Numerator df	= 6
	Denominator df	= 138
	Total sample size	= 146
	Actual power	= 0.9507261

[3] -- *Wednesday, November 23, 2011 -- 15:09:17*

F tests - Linear multiple regression: Fixed model, R^2 increase

Analysis: A priori: Compute required sample size

Input:	Effect size f^2	= 0.15
	α err prob	= 0.05
	Power (1-β err prob)	= 0.8
	Number of tested predictors	= 4
	Total number of predictors	= 5
Output:	Noncentrality parameter λ	= 12.7500000
	Critical F	= 2.4873660
	Numerator df	= 4
	Denominator df	= 79
	Total sample size	= 85
	Actual power	= 0.8027586

[4] -- *Wednesday, November 23, 2011 -- 15:09:26*

F tests - Linear multiple regression: Fixed model, R^2 increase

Analysis: A priori: Compute required sample size

Input:	Effect size f^2	= 0.15
	α err prob	= 0.05
	Power (1-β err prob)	= 0.8
	Number of tested predictors	= 6
	Total number of predictors	= 7
Output:	Noncentrality parameter λ	= 14.7000000
	Critical F	= 2.2010565
	Numerator df	= 6
	Denominator df	= 90
	Total sample size	= 98
	Actual power	= 0.8031800

APPENDIX M

Multiple regression assumptions- normality

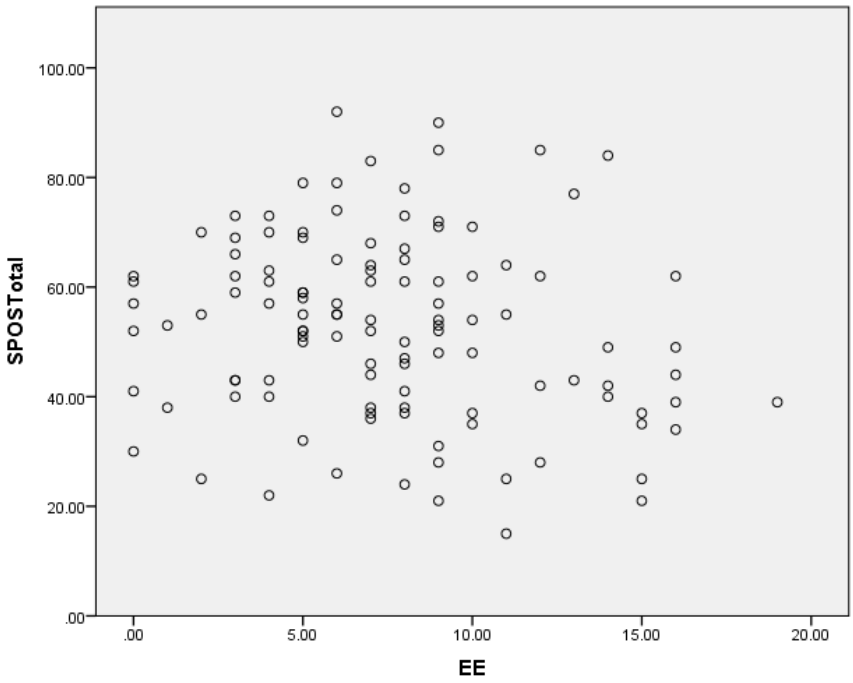
Table 1

Descriptives				
			Statistic	Std. Error
EE	Mean		7.5288	.40186
	95% Confidence Interval for Mean	Lower Bound	6.7318	
		Upper Bound	8.3258	
	Skewness		.313	.237
	Kurtosis		-.373	.469
D	Mean		5.7596	.30354
	95% Confidence Interval for Mean	Lower Bound	5.1576	
		Upper Bound	6.3616	
	Skewness		-.461	.237
	Kurtosis		-.940	.469
PA	Mean		5.2308	.21701
	95% Confidence Interval for Mean	Lower Bound	4.8004	
		Upper Bound	5.6612	
	Skewness		.244	.237
	Kurtosis		2.777	.469
STS	Mean		20.0769	.50236
	95% Confidence Interval for Mean	Lower Bound	19.0806	
		Upper Bound	21.0732	
	Skewness		.700	.237
	Kurtosis		.261	.469
Burnout	Mean		32.3750	.38869
	95% Confidence Interval for Mean	Lower Bound	31.6041	
		Upper Bound	33.1459	
	Skewness		-.319	.237
	Kurtosis		-.332	.469
CompSat	Mean		39.5769	.58735
	95% Confidence Interval for Mean	Lower Bound	38.4121	
		Upper Bound	40.7418	
	Skewness		-.747	.237
	Kurtosis		.802	.469

APPENDIX M

Multiple regression assumptions- linearity

Figure 1 Emotional exhaustion and SPOS

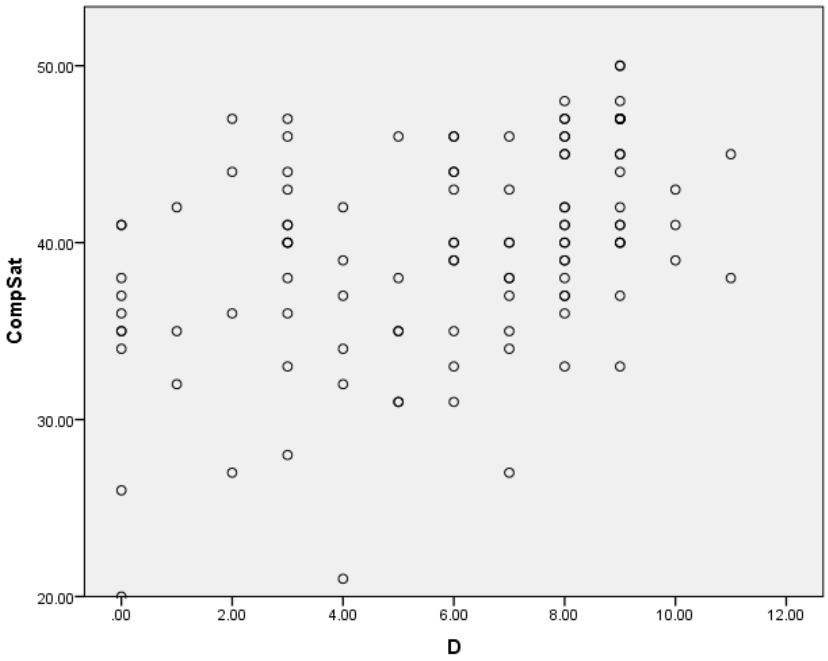


The relationship between Emotional Exhaustion (EE) and Survey of Perceived Occupational Support (SPOS) illustrated in Figure 1, was not significant, yet SPOS was a significant predictor for EE in the multiple regression models.

Figure 2 (Appendix N) provides a scatterplot for the relationship between Depersonalisation (D) and Compassion satisfaction (Comp Sat). This relationship was statistically significant and compassion satisfaction was a significant predictor in the depersonalisation model.

APPENDIX N Multiple regression assumptions- linearity

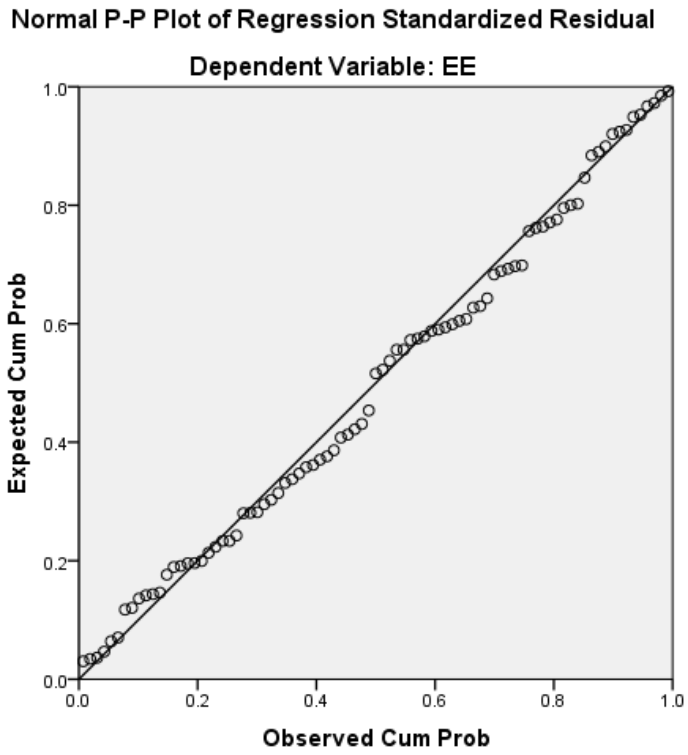
Figure 2 compassion satisfaction and depersonalisation

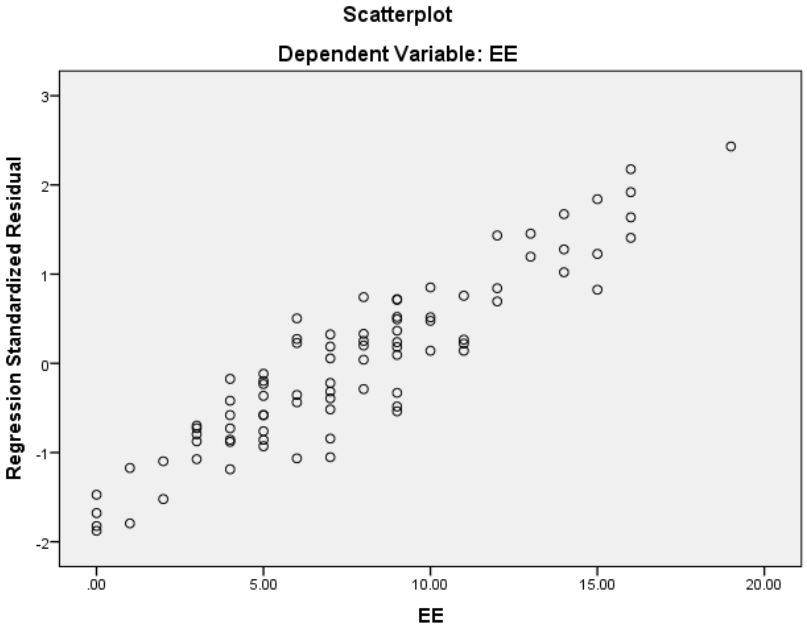


APPENDIX O

Multiple regression assumptions homoscedasticity

Homoscedasticity for Emotional Exhaustion model

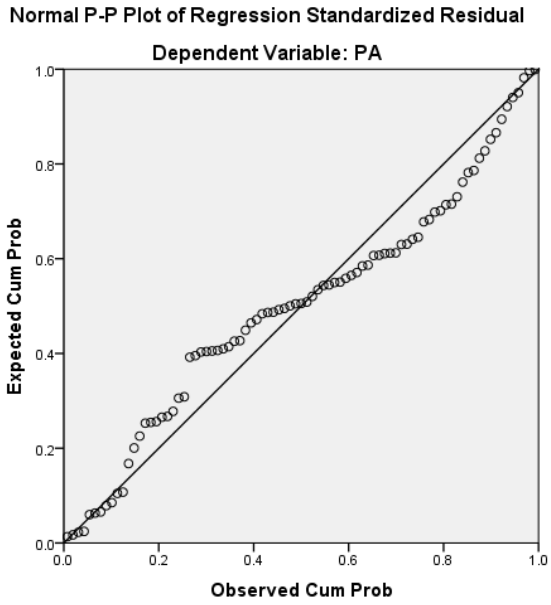


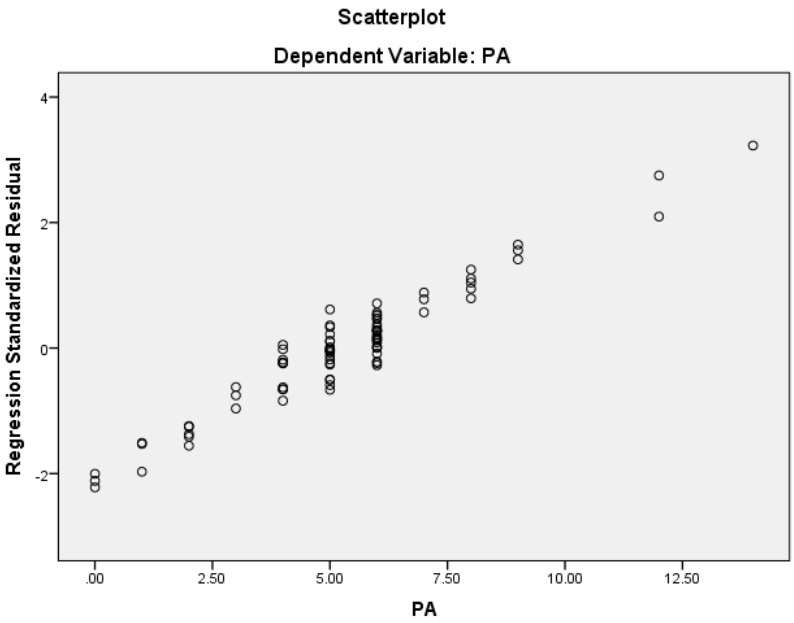


APPENDIX O

Multiple regression assumptions homoscedasticity

Homoscedasticity for Personal Accomplishment Model

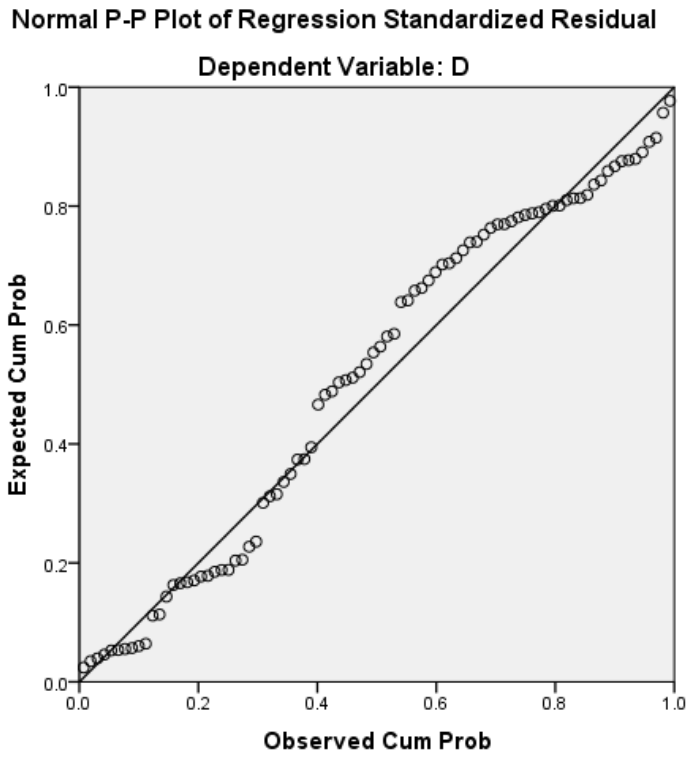


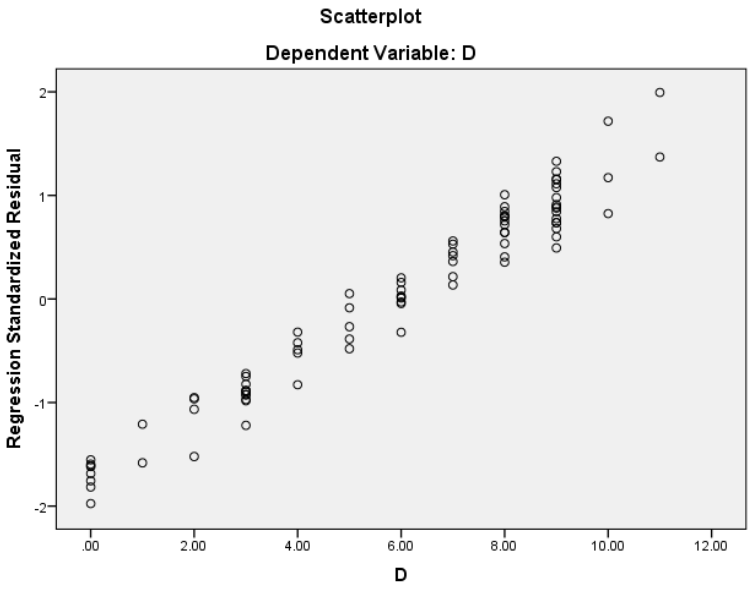


APPENDIX O

Multiple regression assumptions homoscedasticity

Homoscedasticity for Depersonalisation Model

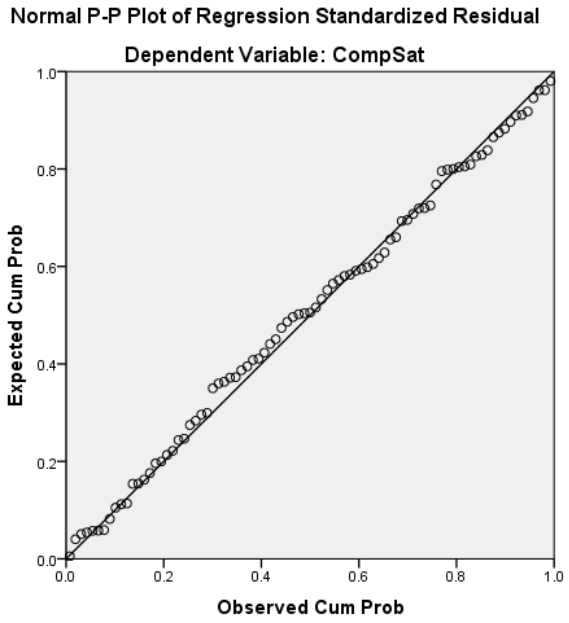


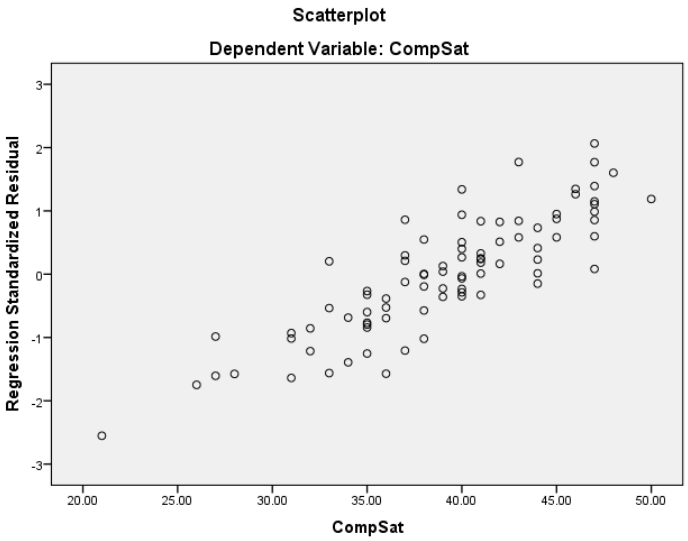


APPENDIX O

Multiple regression assumptions homoscedasticity

Homoscedasticity for Compassion Satisfaction Model

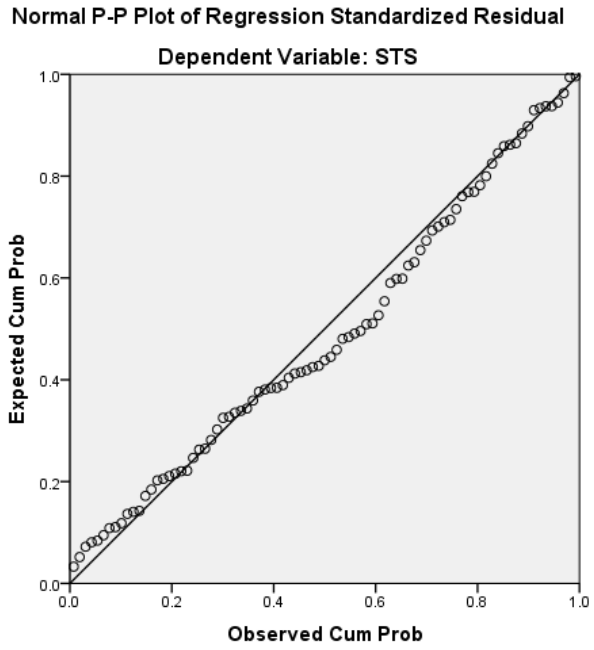


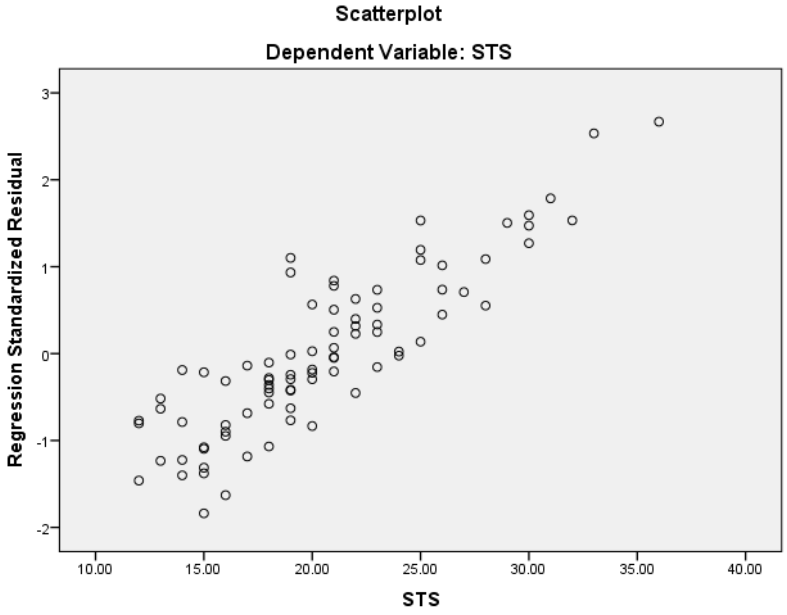


APPENDIX O

Multiple regression assumptions homoscedasticity

Homoscedasticity for STS Model

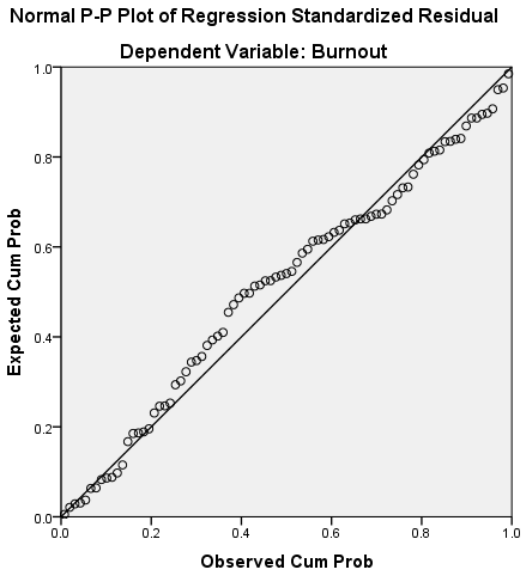


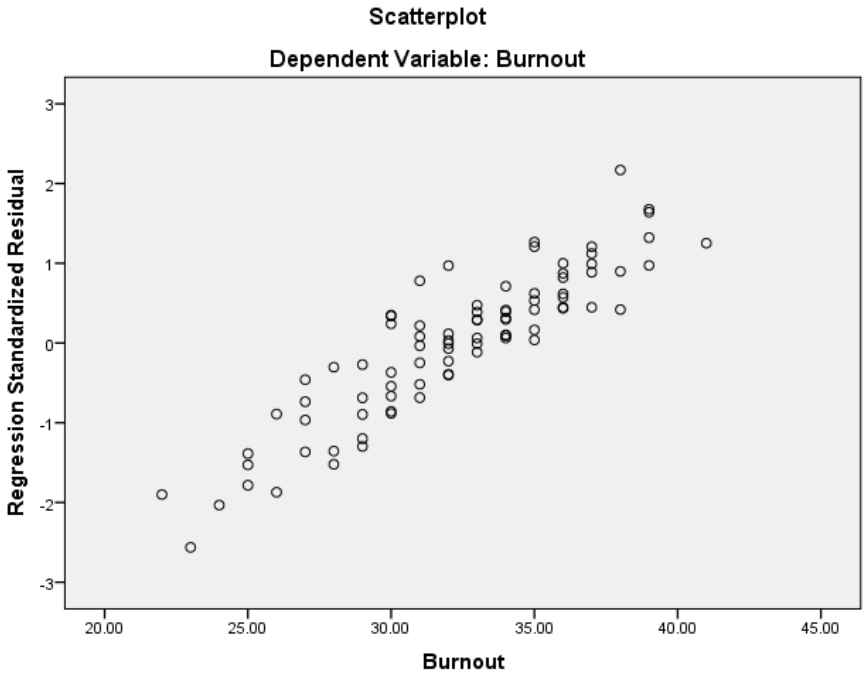


APPENDIX O

Multiple regression assumptions homoscedasticity

Homoscedasticity for Burnout Model (ProQoL)





APPENDIX P

Multiple regression assumptions multi-collinearity

Table 1

Collinearity tests for Emotional Exhaustion model

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions							
				(Constant)	ociB	ociINN	ociSUPP	SPOSTotal	age	yrswithoa	yrsnursing
1	1	7.454	1.000	.00	.00	.00	.00	.00	.00	.00	.00
	2	.355	4.583	.00	.00	.00	.01	.02	.00	.06	.04
	3	.082	9.516	.02	.05	.03	.05	.24	.01	.00	.04
	4	.034	14.867	.00	.00	.02	.04	.00	.11	.83	.39
	5	.028	16.371	.04	.01	.07	.30	.34	.11	.10	.29
	6	.023	18.150	.00	.26	.01	.34	.28	.31	.00	.14
	7	.016	21.816	.05	.65	.53	.15	.04	.03	.00	.02
	8	.009	28.568	.88	.03	.35	.10	.08	.43	.00	.09

a. Dependent Variable: EE

Table 2

Collinearity tests for Emotional Exhaustion model continued

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	8.149	3.830		2.128	.037		
	ociB	-.182	.120	-.178	-1.515	.134	.802	1.247
	ociINN	.307	.153	.258	2.009	.048	.672	1.488
	ociSUPP	-.162	.137	-.196	-1.182	.241	.402	2.488
	SPOSTotal	-.021	.038	-.082	-.537	.593	.475	2.106
	age	.010	.067	.023	.143	.886	.438	2.285
	yrswithoa	.162	.096	.349	1.687	.096	.258	3.870
	yrsnursing	-.094	.095	-.218	-.985	.328	.225	4.439

a. Dependent Variable: EE

APPENDIX P

Multiple regression assumptions multi-collinearity

Table 3
Collinearity tests for Personal Accomplishment model

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions								
				(Constant)	age	ociB	ociINN	ociSUPP	SPOSTotal	yrswithoa	yrsnursing	CompSat
1	1	8.418	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.368	4.783	.00	.00	.00	.00	.01	.01	.06	.04	.00
	3	.085	9.949	.01	.01	.04	.02	.06	.24	.00	.04	.01
	4	.034	15.644	.00	.11	.00	.01	.05	.00	.79	.39	.00
	5	.032	16.161	.01	.06	.01	.10	.32	.32	.06	.15	.04
	6	.024	18.900	.00	.23	.32	.02	.29	.29	.00	.07	.03
	7	.016	22.782	.04	.28	.44	.13	.09	.00	.04	.21	.21
	8	.015	23.857	.00	.15	.18	.51	.10	.13	.02	.10	.31
	9	.007	33.512	.93	.17	.01	.21	.07	.00	.03	.00	.39

a. Dependent Variable: PA

Table 4
Collinearity tests for Personal Accomplishment continued

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.741	2.530		-.293	.770		
	age	.035	.038	.148	.916	.363	.448	2.234
	ociB	.005	.069	.009	.074	.942	.797	1.254
	ociINN	.107	.088	.160	1.215	.228	.675	1.481
	ociSUPP	-.084	.076	-.183	-1.104	.273	.425	2.356
	SPOSTotal	.015	.022	.107	.693	.490	.493	2.029
	yrswithoa	.043	.057	.165	.761	.449	.248	4.028
	yrsnursing	-.082	.055	-.340	-1.483	.142	.222	4.514
	CompSat	.094	.052	.221	1.809	.074	.780	1.282

a. Dependent Variable: PA

APPENDIX P

Multiple regression assumptions multi-collinearity

Table 5
Collinearity tests for Depersonalisation

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions								
				(Constant)	age	ociB	ociINN	ociSUPP	SPOSTotal	yrswithoa	yrsnursing	CompSat
1	1	8.422	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.366	4.800	.00	.00	.00	.00	.01	.01	.06	.04	.00
	3	.084	9.996	.01	.01	.04	.02	.06	.25	.00	.04	.01
	4	.034	15.734	.00	.11	.00	.01	.06	.00	.77	.38	.01
	5	.032	16.247	.01	.05	.01	.10	.31	.32	.06	.15	.05
	6	.024	18.812	.01	.21	.33	.02	.28	.30	.00	.04	.04
	7	.016	22.752	.03	.35	.33	.09	.09	.00	.06	.26	.25
	8	.015	23.845	.00	.11	.27	.56	.11	.12	.02	.07	.24
	9	.007	33.723	.93	.17	.01	.21	.07	.00	.03	.00	.41

a. Dependent Variable: D

Table 6
Collinearity tests for Depersonalisation continued

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-3.790	3.060		-1.239	.219		
	age	.040	.046	.129	.861	.392	.449	2.227
	ociB	-.004	.083	-.006	-.052	.959	.796	1.256
	ociINN	.077	.107	.089	.724	.471	.673	1.485
	ociSUPP	-.161	.092	-.269	-1.746	.085	.427	2.343
	SPOSTotal	-.007	.026	-.039	-.270	.788	.496	2.014
	yrswithoa	-.004	.069	-.012	-.061	.952	.246	4.062
	yrsnursing	-.033	.067	-.106	-.496	.621	.220	4.539
	CompSat	.261	.062	.475	4.186	.000	.787	1.271

a. Dependent Variable: D

APPENDIX P

Multiple regression assumptions multi-collinearity

Table 7

Collinearity tests for Compassion Satisfaction

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions											
				(Constant)	age	ociB	ociINN	ociSUPP	SPOSTotal	yrswithoa	yrsnursing	PerspectiveTaking	Fantasy	EmpathicConcern	PersonalDistress
1	1	10.956	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.417	5.126	.00	.00	.00	.00	.00	.01	.05	.04	.00	.03	.00	.00
	3	.260	6.488	.00	.00	.00	.00	.00	.01	.00	.00	.00	.02	.00	.46
	4	.119	9.588	.00	.00	.00	.00	.06	.12	.00	.00	.03	.13	.01	.07
	5	.090	11.020	.00	.00	.01	.01	.00	.02	.02	.03	.01	.69	.01	.11
	6	.046	15.372	.00	.00	.13	.10	.01	.17	.00	.01	.07	.03	.04	.05
	7	.033	18.106	.00	.08	.00	.00	.01	.02	.88	.46	.01	.00	.00	.01
	8	.024	21.430	.00	.00	.22	.00	.56	.48	.00	.00	.00	.01	.06	.00
	9	.023	21.960	.00	.52	.01	.04	.01	.01	.04	.42	.10	.03	.00	.04
	10	.015	26.743	.01	.01	.34	.52	.31	.12	.00	.00	.13	.02	.04	.04
	11	.011	31.546	.00	.11	.26	.09	.00	.01	.01	.00	.52	.04	.72	.06
	12	.005	49.126	.98	.28	.02	.25	.03	.03	.00	.04	.11	.01	.11	.16

a. Dependent Variable: CompSat

Table 8

Collinearity tests for Compassion Satisfaction continued

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	26.455	7.596		3.483	.001		
	age	.024	.088	.042	.269	.789	.399	2.506
	ociB	.162	.157	.120	1.034	.305	.743	1.346
	ociINN	-.023	.198	-.015	-.117	.907	.633	1.580
	ociSUPP	.251	.174	.229	1.442	.154	.394	2.535
	SPOSTotal	.060	.049	.181	1.239	.219	.464	2.156
	yrswithoa	.243	.122	.394	2.003	.049	.257	3.899
	yrsnursing	-.163	.120	-.286	-1.356	.179	.223	4.481
	PerspectiveTaking	-.215	.189	-.156	-1.139	.258	.527	1.896
	FantasyScale	.071	.130	.062	.542	.589	.750	1.334
	EmpathicConcern	.299	.223	.164	1.344	.183	.664	1.506
	PersonalDistress	-.284	.131	-.266	-2.170	.033	.659	1.517

a. Dependent Variable: CompSat

APPENDIX P

Multiple regression assumptions multi-collinearity

Table 9
Collinearity tests for STS

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions										
				(Constant)	age	ociB	ociINN	ociSUPP	SPOS Total	yrswithoa	yrsnursing	Perspective Taking	Fantasy Scale	EmpathicConcern	PersonalDistress
1	1	10.956	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.417	5.126	.00	.00	.00	.00	.00	.01	.05	.04	.00	.03	.00	.00
	3	.260	6.488	.00	.00	.00	.00	.00	.01	.00	.00	.00	.02	.00	.46
	4	.119	9.588	.00	.00	.00	.00	.06	.12	.00	.00	.03	.13	.01	.07
	5	.090	11.020	.00	.00	.01	.01	.00	.02	.02	.03	.01	.69	.01	.11
	6	.046	15.372	.00	.00	.13	.10	.01	.17	.00	.01	.07	.03	.04	.05
	7	.033	18.106	.00	.08	.00	.00	.01	.02	.88	.46	.01	.00	.00	.01
	8	.024	21.430	.00	.00	.22	.00	.56	.48	.00	.00	.00	.01	.06	.00
	9	.023	21.960	.00	.52	.01	.04	.01	.01	.04	.42	.10	.03	.00	.04
	10	.015	26.743	.01	.01	.34	.52	.31	.12	.00	.00	.13	.02	.04	.04
	11	.011	31.546	.00	.11	.26	.09	.00	.01	.01	.00	.52	.04	.72	.06
	12	.005	49.126	.98	.28	.02	.25	.03	.03	.00	.04	.11	.01	.11	.16

a. Dependent Variable: STS

APPENDIX P

Multiple regression assumptions multi-collinearity

Table 10
Collinearity tests for STS Continued

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	18.631	7.180		2.595	.011		
	age	-.123	.083	-.240	-1.478	.144	.399	2.506
	ociB	-.032	.148	-.026	-.216	.829	.743	1.346
	ociINN	.104	.187	.072	.556	.580	.633	1.580
	ociSUPP	-.115	.164	-.114	-.700	.486	.394	2.535
	SPOSTotal	.022	.046	.073	.484	.630	.464	2.156
	yrswithoa	.006	.115	.011	.053	.958	.257	3.899
	yrsnursing	.016	.114	.030	.139	.890	.223	4.481
	PerspectiveTaking	-.255	.178	-.202	-1.429	.157	.527	1.896
	FantasyScale	.116	.123	.111	.941	.350	.750	1.334
	EmpathicConcern	.383	.211	.228	1.817	.073	.664	1.506
	PersonalDistress	.256	.124	.261	2.067	.042	.659	1.517

a. Dependent Variable: STS

Table 11
Collinearity tests for burnout

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions											
				(Constant)	age	ociB	ociINN	ociSUPP	SPOSTotal	yrswithoa	yrsnursing	PerspectiveTaking	FantasyScale	Empathic Concern	PersonalDistress
1	1	10.956	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.417	5.126	.00	.00	.00	.00	.00	.01	.05	.04	.00	.03	.00	.00
	3	.260	6.488	.00	.00	.00	.00	.00	.01	.00	.00	.00	.02	.00	.46
	4	.119	9.588	.00	.00	.00	.00	.06	.12	.00	.00	.03	.13	.01	.07
	5	.090	11.020	.00	.00	.01	.01	.00	.02	.02	.03	.01	.69	.01	.11
	6	.046	15.372	.00	.00	.13	.10	.01	.17	.00	.01	.07	.03	.04	.05
	7	.033	18.106	.00	.08	.00	.00	.01	.02	.88	.46	.01	.00	.00	.01
	8	.024	21.430	.00	.00	.22	.00	.56	.48	.00	.00	.00	.01	.06	.00
	9	.023	21.960	.00	.52	.01	.04	.01	.01	.04	.42	.10	.03	.00	.04
	10	.015	26.743	.01	.01	.34	.52	.31	.12	.00	.00	.13	.02	.04	.04
	11	.011	31.546	.00	.11	.26	.09	.00	.01	.01	.00	.52	.04	.72	.06
	12	.005	49.126	.98	.28	.02	.25	.03	.03	.00	.04	.11	.01	.11	.16

a. Dependent Variable: Burnout

APPENDIX P

Multiple regression assumptions multi-collinearity

Table 12
Collinearity tests for burnout continued

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	33.296	5.759		5.781	.000		
	age	-.040	.067	-.100	-.598	.552	.399	2.506
	ociB	-.061	.119	-.062	-.509	.612	.743	1.346
	ociINN	.171	.150	.151	1.143	.257	.633	1.580
	ociSUPP	-.112	.132	-.143	-.851	.398	.394	2.535
	SPOSTotal	-.045	.037	-.188	-1.216	.228	.464	2.156
	yrswithoa	-.072	.092	-.163	-.782	.437	.257	3.899
	yrsnursing	.053	.091	.131	.585	.560	.223	4.481
	PerspectiveTaking	-.259	.143	-.263	-1.812	.074	.527	1.896
	FantasyScale	-.014	.099	-.017	-.139	.890	.750	1.334
	EmpathicConcern	.411	.169	.314	2.433	.017	.664	1.506
	PersonalDistress	.022	.099	.029	.223	.824	.659	1.517

a. Dependent Variable: Burnout

APPENDIX Q

Feedback form issued to staff following presentation of interview findings

What are the Experiences of Nursing Staff Working in Older Adult Care?

Validation Survey Version 01 *June 21st 2011*

Did you feel that the themes reflected *your experiences*? ☐ Yes ☐ To some extent ☐ Not at all

Further comments:.....

.....

And the *general experience* of older adult care? ☐ Yes ☐ To some extent ☐ Not at all

Further comments:.....

Any suggestions:.....

.....

Did you participate in an interview? ☐ Yes ☐ No

Please tick the boxes which best describe you:

Age:

☐ 18-29 ☐ 30-39

☐ 40-49 ☐ 50-59

☐ 60-69

Training

☐ NVQ or equivalent

☐ BTEC

☐ BNurs/BSc Hons

☐ Diploma of Higher Education

☐ Postgraduate Certificate

☐ Postgraduate Diploma

☐ MSc

☐ Other, please give details

……..

If you would like to leave further comments please use the reverse of this sheet or email Jenny Watts at jw232@le.ac.uk

Work experience with older adults:

☐ Less than 12 months

☐ 1-5 years ☐ 6-10 years

☐ 11-15 years ☐ 16-20 years

☐ 21-25 years ☐ 26-30 years

APPENDIX R

Table 1 Articles excluded from systematic literature review

Reason for exclusion	Totals	Authors
Publication-conference proceedings	1	Ramos, Blackburn & Tomczak (2010) Circenis & Millere (2011)
Sample- health professionals but not nurses	3	Sprang, Clark & Whitt-Woosley (2007) Collins & Long (2003) Genrty, Baggerly & Barranowsky (2004) Rossi, Cetrano, Pertile & Rabbi et al (2012)
Design-nurse data pooled with other health professionals	10	Alkema, Linton & Davies (2008) Argentero & Setti (2011) Ciciognani, Pietrantoni, palestini & Prati (2009) Hilliard (2006) Laposa, Alden & Fullerton (2003) Meadors, Lamson, Swanson, White & Sira (2009) Robin, Meltzer & Zelikovxky (2009) Potter, Deshields, Divanbeigi, Berger, Cipriano, Norris & Olsen (2010) Wallbank (2010) Wee & Myers (2003)
Design- reports prevalence of interventions- does not help address aims of the literature review	1	Aycock & Boyle (2008)
Design- reports prevalence, but does not test for differences according to demographics etc – does not help address aims of the literature review, tests CF against the Silencing Response- validity concerns about the measure- discriminant validity, it is not clear if the SR is part of CF or an associated response. Limited data available (Figley, 2002)	1	Elkoni & van der Vyver (2011)
Design- reports qualitative findings only	1	Perry, Toffner, Merrick & Dalton (2011)
Setting- forensic secure unit with high incidence of threat and violence directed towards staff	1	Laurud, Nonstad & Palmstiernal (2009)
Measurement- new Compassion Fatigue scale, validity testing not included	1	Meadors & Lamson (2008) Burman, Mank, Beijer & Olff (2011)
Measurement- adaptation of standardised test, validity testing not included	1	Townsend & Campbell (2009)
Totals	22	

APPENDIX S
Data extraction form

Authors	
Inclusion criteria fulfilled	□Empirical □Quantitative □Peer- reviewed □English language □Nurses □Patient care role □Non dual exposure
Sample *details*	*Specialty of the participants:* *Sample size:* *Males=* *Females=* *Mean age=* *Response rate=*
Country of study	
Institution details	*Location of the Institution:* *Type of health institution:*
Single site?	
Study aims/ research questions	
Design	
Concept(s) investigated *Measures employed*	□Self-report □Standardised Robustness of measure reported? □ Reliability □ Internal consistency □ Validity □ Others Credibility checks? □ Triangulation □ Others
Recruitment	*Sample selection procedure* □*Convenience* □*Randomised* □*Statistical power calculated?* *How was the sample approached?* *Sources of bias?*
Main findings	Mean STS scores Other findings
Are all equally affected? Why not?	
Predictive/protective relationships?	*Y/N* *Gender? Rank/role? Age? Shifts? Social support? Coping strategies?* *Other: specify*
Future Research	*Questions raised by this study?* *Authors' recommendations for future investigations?* *Implications for older adult care contexts?*